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AND THE

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J. C. CULBERTSON, EDITOR.

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ADDRESSES.

THE PRESIDENT'S ADDRESS.

Delivered at the Fourteenth Annual Meeting of the American Academy of Medicine, held at Philadelphia, December 3, 1890.

BY S. J. JONES, A.M., M.D., LL.D.,
OF CHICAGO, ILL.

On this interesting occasion, when we are felicitating ourselves on the re-assembling of the Academy in the place of its birth, we find added interest in the fact that it was here that the first medical college in America was organized, and that the teaching which was so well begun in Colonial days has not been allowed to lag in the onward movement of the intervening years; that here the American Medical Association completed its organization in the interest of liberal medical education and elevation of the medical profession, and its first report on medical education was made; and here, during the Centennial Medical Congress, the work of the medical profession of America for a century was portrayed, showing its achievements and its defects, and making apparent its needs.

This occasion, therefore, is of more than ordinary interest to us.

It was fitting that an organization having an object such as that of this Academy should have originated here and amid the influences which surrounded that Congress.

The founders of the Academy were inspired by the greatness of our calling, with its possibilities for good, and encouraged by the achievements of our predecessors,—often accomplished under most adverse circumstances. They were also admonished by knowledge of our shortcomings, which had been rendered apparent in the numerous formal reports on Medical Education made at the annual meetings of the American Medical Association between the years 1847 and 1873, as also, in the carefully prepared addresses delivered before the Centennial Medical Congress. Thus, with an appreciation of the difficulties of the work yet to be accomplished in fulfilling its mission, the Academy entered upon its undertaking with limited numbers but in such manner as in the state of literary and medical education, at that time, seemed best suited to remedy existing defects. As

that Centennial Congress afforded a favorable occasion for review of the work of the whole profession in the preceding century, so our return here, to-day, suggests a retrospect of the work of the Academy in the fourteen years of its existence, and it may not be unprofitable to consider, briefly, its aims and its present needs for fruitful endeavor in the future. Great and gratifying as were the results that had been accomplished by our profession in the century preceding that congress, it was apparent that much yet remained to be done, especially in the matter of preparatory education of students of medicine. Since that time such increased facilities have continually been added in their teaching, in the best equipped medical colleges, that it is within the limits of accuracy to assert that at no other time within the history of the world have such opportunities been afforded students of medicine as in the present day, and to this end the efforts of this Academy have doubtless contributed.

In order that students may be enabled to comprehend and to fully profit by such instruction, the need of proper mental discipline, before entering upon their medical studies, is so undoubted as neither to require or admit of argument, but emphasizes the importance of the Academy's mission and the usefulness of its efforts.

In its organization the fact was recognized that elevation of the medical profession must primarily rest upon liberal education, with implied mental discipline, as the foundation on which to build successfully.

Already many changes have occurred in the matter of education, literary and medical, especially since the Colonial times with the medical apprentice system and the primitive educational efforts of those earlier days.

In the rapidly shifting scenes by which we are surrounded, and in the onward march of science that characterizes the age in which we are living, it is no small undertaking to move apace with those events and to keep our educational institutions abreast of that advance, and so adjusted as to meet the demands of these progressive times.

Especially in the latter part of the present century has wonderful advance been made in science and art and the humanities. As is meet, medi-

cine, which has been called "the link that unites science and philanthropy," seeks to keep pace with those advances. Being a liberal profession as well as an art, it should ever be in the forefront in the progress of civilization. It is the aim, and it has been the effort, of the Academy to secure higher preliminary and medical education as being in the direction of further advancement of the profession whose purposes are, first to prevent conditions which lead to disease, suffering and untimely death, and, next, to alleviate disease and the suffering of our fellow men so far as it lies within the power of man to do. That the efforts of the Academy have not been unavailing in its laudable endeavor, seems apparent in the increasing numbers which are yearly being added to the roll of its fellows, and in the estimate in which it is held by the medical profession, even among those who are not eligible to fellowship under the prescribed conditions, but who indorse its aim and its work.

At the time of its organization almost the only degree conferred, at graduation, by the literary colleges of this country was that of Bachelor of Arts, and the Academy adopted that degree as offering presumptive evidence of liberal education, and made it a *sine qua non* of fellowship.

Since that time many of the prominent literary colleges of our country have modified their curricula of study, and they now confer other degrees, after a course equivalent to that which is required to obtain the degree of Bachelor of Arts.

Acting upon the recognized fact that the Academy desires not merely the possession of any particular literary degree, but such mental discipline as qualifies for profitable study of medicine, its council at its last annual meeting, after careful consideration of the subject in its many bearings, recommended that the conditions of fellowship, which required the possession of that degree received in course, be so modified that applicants giving evidence of equivalent preparatory liberal education, or having other literary degrees, conferred upon them in course, and after having completed a curriculum of study equivalent to that required for obtaining the degree of Bachelor of Arts, as determined by the Council and upon its recommendation, should be eligible to election. The Academy so amended its Constitution and placed itself *en rapport* with the progress of the immediate present, untrammelled by too conservative traditions of the past, and, on the other hand, guarding against such radical change as might lead to belief that it had abandoned the very corner-stone of its foundation, and its *raison d'être*. But additional provision is needed, to enable it to meet the requirements of the near future because of the changes that are yearly being made regarding the practice of medicine.

For the last two years an effort has been in progress, through committees appointed for that purpose, to ascertain the names and addresses of all physicians in the United States who are eligible to Fellowship under the prescribed condition of having the degree of Bachelor of Arts. That work has shown that but a very small proportion were eligible; so small, in fact, that the Academy cannot with its comparatively limited Fellowship at present, nor could it, if all who were eligible by reason of possessing that degree should unite with us, become the power for good that it should be, nor exert the influence necessary to the accomplishment, at an early date, of the purpose for which it was designed.

Since its aim is that of a missionary seeking to accomplish the greatest good for mankind, it would seem to be the part of wisdom not only to persevere in the line of the good work that it has been doing, but to admit to Fellowship, immediately on graduation, all physicians who meet its literary and professional requirements, and, in addition, to widen its sphere by bringing into affiliation with it and securing the active coöperation of the better element of our profession that have not enjoyed the advantages of a literary course such as has heretofore been necessary to entitle to Fellowship, but who, without such preliminary training, have attained a useful and honorable position in our profession; men whose character and acquirements make them representative members of our calling in different sections of our country; men who, though not thus made eligible to Fellowship, are broad enough in their views not to join in the charge that has been made by some that this Academy, by restricting its conditions of Fellowship, aims to establish an illiberal mutual-admiration society, whose motto is "I am holier than thou." To us it is well known that the charge is alike groundless and unjust, but it must be admitted that among those less familiar with the Academy and its work it has not been without a degree, though perhaps slight, of influence adverse to its principles and its endeavors.

If by any proper means, as by construing liberally the present requirements for Fellowship, or by changing the conditions requisite for honorary membership, or by establishing associate fellowship, we can identify with the Academy that better element, a powerful ally in our missionary work can be, and should be, secured.

This subject is not new to the Academy, for in different forms it has been considered for several years, nor is it so old and trite that it may not be further discussed and considered, that our thoughts may be more crystallized, and so formulated that an end may be reached which is generally recognized as being desirable, if proper means of accomplishing it can be adopted. Many of these men realize the advantage that it would have been to them in their struggles to reach their

present positions in the profession, if they could have had opportunity of protracted mental discipline before beginning the study of medicine. Their greater difficulty in prosecuting their professional study; the embarrassments attending their practice in after years, and the seemingly impossible task of compensating for that defect, have made them keenly appreciative of the advantages which they were denied, and they are among the strongest advocates of the Academy's purpose. In the belief of the desirability, the importance and the advantage to our cause, of forming a union with them, at as early a time as it is feasible to accomplish it, due consideration of the subject at this meeting is respectfully urged.

With the many medical organizations, National and local, general and special, that have been created since the founding of the Academy, ample provision has been made for the presentation, elsewhere than in this Academy, of all scientific papers relating to medicine which the Fellows may desire to present, and this session seems an appropriate time for the Academy to consider whether, henceforth, it had not better restrict its efforts exclusively to missionary work, having as its mission:

1. Fostering of preliminary education, as being now, even more than ever before, indispensable for students of medicine.
2. Advocating higher medical education and upholding medical colleges which afford the greatest facilities for proper medical education, and which demand a high standard of qualification of their students, and
3. Advocating State control of the license to practice medicine, regardless of the possession of diplomas issued by medical colleges—making colleges what they should be, simply teaching bodies, thus stimulating to rivalry for the best teaching rather than for the largest classes, and affording the public better opportunity of judging of the qualifications of physicians than the present system of granting diplomas gives.

Such a course would give to the Academy a distinctive character, which would avoid its conflicting with any other organization, and would commend it, yet more fully, to the better element of our profession and to the thoughtful consideration of the laity as well.

If the voting public, the chief source from which medical legislation must be secured, can be made to understand that the medical profession is not actuated by purely personal motives, but that it, and this Academy as well, aims to secure, for the benefit of the people, men of liberal education for the physicians of our country, their sympathy will be enlisted, and their feeling of self-interest would be an impelling motive to procure such legislative enactments as are essential for the welfare of the citizen, for the protection of the health of the public, and for just appreciation of the usefulness,

the dignity, and the self-respect of the medical profession. They should be made to comprehend the fact that to that end strict requirements should be placed upon medical colleges, instead of continuance of the present reckless mode of chartering them, and that each State should establish by law a uniform, minimum, degree of professional attainment to entitle one to the right to practice medicine within its borders, regardless of the source of the knowledge—thereby securing qualified physicians and declaring, by official certificate for public registration, the standard reached in such an examination.

That "no nation can be truly great if unmindful of the sanitary condition of its citizens" is evident to all, but how best to care for its citizens is not so definitely settled in the minds of our people. The established facts of sanitary science have led to the adoption by Governments—our own among the number—of many measures designed to preserve the public health. Owing to our form of Government, which is not paternal in character, much that relates to the welfare of the people devolves upon the individual States which, under the police power that it has been judicially affirmed they have, can legislate for the protection of the citizen in matters that do not devolve upon the general Government. This includes the subject of legislation regarding conditions entitling physicians to the right to practice medicine. Already a number of the States have passed laws of this character defining, in various ways, the conditions essential to secure for physicians a right to practice, in each of those States, and establishing boards consisting, in part at least, of physicians who are charged with the duty of securing compliance with the law's requirements for the protection of the public from unqualified medical men. Under the laws of some of these States no diploma of a medical college is recognized as entitling its owner, or holder, to a right to enter upon the practice of medicine within those States. In others such right is conceded under certain declared limitations. This legislation, though of comparatively recent origin, has already made progress which augurs well for the future of the principles which this Academy advocates. It moreover, affords the Academy an extended field of usefulness through its Fellows resident in the different States.

When a uniform standard of examination of all applicants for license to practice medicine in any State is established, equal justice is done to all. No ground remains for charges of unjust discrimination against any. It is in the interest of scientific medicine, and therefore of the public, that every State should enact such laws, and it is but natural that the medical profession, because of their greater familiarity with the subject, should lead in formulating and advocating the passage of

such laws for their State as their experience and wisdom lead them to believe to be best suited to secure the health and well-being of the people of their State. An efficient means to that end lies in securing for the State qualified physicians, and banishment of the unqualified.

To effect reforms organized effort is required, and the more systematically the work is done the better prospect of success attends it. Should the Academy deem it expedient to constitute the Fellows resident in each State a special committee for that State to represent it in advocating its principles, and seeking coöperation of the medical organizations of such State to secure medical legislation having in view the proper protection of the people, by requiring adequate preliminary and medical education to procure a license to practice, it seems probable that the usefulness of the Academy could be materially increased; its work rendered efficient; its aims practically realized, and the people as well as our profession be benefited. It may be assumed that the Academy was not organized solely for the benefit of the student of medicine, nor even for the welfare of the medical profession, alone, but to secure for the public well qualified physicians, the accomplishment of which would also, incidentally, redound to the credit of our profession. Therefore it would seem to be eminently proper that this Academy should advance still further in pursuit of its purpose, and give to its work this additional and practical direction, which would be in keeping with the spirit of progress which has recently been given additional impetus because the medical profession and the public alike are demanding some remedy for abuses that are attendant upon the transitional state in which the practice of medicine has been for the last several years. It is perhaps not essential that now or here it should be attempted to explain why this unfortunate state exists, but more profitable to recognize the fact of its existence and the general demand for some remedy for it. If a practicable plan can be adopted by this Academy by which it can efficiently contribute toward the accomplishment of a result so much desired, it will still further demonstrate its usefulness, and additional reason for continuance of its existence.

DR. PRENTISS at a meeting of the International Medical Congress at Berlin, related the case of a lady, æt. 25, who had thin blonde hair, and who suffered from uræmic symptoms depending on an affection of the kidneys. Frequent injections of pilocarpine were given. In one month the hair had become changed to a chestnut color, and after two months it was found to be a deep black; the hair, moreover, being much fuller and thicker than before.

ORIGINAL ARTICLES.

THE HYGIENE OF SCHOOL STUDIES.

Read before the Medical Society of the District of Columbia, November 19, 1890.

BY D. S. LAMB, M.D.,
OF WASHINGTON, D. C.

This paper lays no claim to originality. The ground has been repeatedly gone over and worked up. The territory covered by the name "School Hygiene" is large and full of details. I have chosen only the "Hygiene of School Studies." The others are of equal importance; they are all interdependent. The literature is immense, especially that of the last ten years. This inquiry represents the opinion of this country, Canada, Great Britain, France and Belgium; and it is fair to assume can hardly differ from that of other European countries.

Herbert Spencer says that success in the world depends on energy rather than information; a policy which crams with information undermines energy and defeats itself. Information rapidly acquired is rapidly lost; and the cramming method unfits the brain for healthy spontaneous work. The *acquisition* of knowledge is only part; it is the *organization* of knowledge, requiring time and thought, which is useful. Spencer also compares knowledge which is simply stored up, to so much intellectual fat; it must be intellectual muscle to be of value.

The object of education is to prepare for what is commonly called "our life work;" and the test of the value of an educational course is whether it fulfils that end. To paraphrase Spencer's words by those of another author, man must be a *good animal* to succeed in life. Abnormal use of the intellectual part leads to premature arrest of the physical. The physical, mental and moral must be developed together. If either is neglected or overworked, manhood and womanhood will be ill-balanced and defective. A normal exercise of each is reflected beneficially upon the others; a normal exercise of all improves the quality of each. Old Hippocrates said that the strength of the mind increases with that of the body.

The first requisite then of a child is to be *well*; for the child as a child; as the promise of a future man or woman; and as a coming industrial individual. There cannot be a sound mind in an unsound body.

In all countries pretending to any degree of civilization, past and present, the schoolmaster has been and is an important member of society. It has been found most convenient and satisfactory by the majority of the people to delegate at least secular education of their children to one who makes a specialty of that work, and who, inferentially, is best qualified to do it. Among the Greeks he was called *Paidagogos*, a leader of

boys; afterwards a teacher of children, boys and girls. He often walked about with his scholars in the open air, asking and answering questions. Thus they acquired knowledge and health together. The spelling of the word changed from *paid* to *ped* would suggest this custom of leading the children afoot; as if from the latin *pes, pedis*, a foot. With this in mind if I might coin a word, I would say that *sedagogue* expresses the modern custom of teaching children, while sitting. The schoolmaster sits down with his scholars in a class room, properly or improperly lighted, heated and ventilated; conducing to mental effort or mental inertia.

I question whether by less session and more motion the scholar may not acquire as much useful knowledge of men and things in less time and at less cost to health. At the same time it must not be forgotten that the disabilities under which children labor, are often due, at least in part, to faulty regulations or absence of regulations at home. The first question is as to the maximum time a child may be required or permitted to study during any one day; for the present, excluding home study. Many of the writers express the conviction that except for kindergarten work, children should not enter school before the age of 8 years; that besides acquiring a greater measure of health up to that age, and diminishing very greatly the liability to contract contagious diseases, a child will learn as much, indeed more, after that age, than if he began his school studies earlier.

From the age of 7 to 9, the maximum number of hours of daily study should not exceed three. From 9 to 12 years, not more than four. The State Medical Society of Rhode Island has expressed its opinion that three is enough. From 12 to 15 years, five to six hours. From 15 to 18 years, eight hours. These statements are based on those of Drs. Newsholme of London, Chancellor and Rohé of Baltimore. Dr. Newsholme is a graduate of the Department of Public Health of the University of London, and Health Officer of Clapham; and the author of a work on "School Hygiene," London, 1887. Dr. Rohé, of Baltimore, is the author of a "Text-Book of Hygiene," Philadelphia and London, 1890. Dr. Chancellor was and may yet be the Secretary of the Maryland Board of Health, and read a paper on "School Hygiene," published by the Board in its 7th Report, 1888.

The New York Medico-Legal Society has declared its opinion that in primary schools three hours a day of study is enough.

In England it is stated that good voluntary attention in children from 10 to 12 years of age, is exhausted by four varied lessons, requiring mental effort of half an hour each, in the forenoon, with intervals of relief. After the midday meal, the capacity of voluntary attention is gen-

erally reduced one-half; and not more than two half-hour lessons requiring mental effort can be given with profit. This makes three hours of actual mental work in six hours of school time.

The experience of ten to twelve thousand pupils covering twelve to fifteen years, shows that the general average school time is fully double the psychological limit of the capacity of the average child, for lessons requiring mental effort. Beyond that limit, instruction is profitless. In England there are what are called half-time schools, for children who are at work part of the day in factories, etc. They have the same curriculum as the whole or six-hour scholars. The book attainments of the three-hour scholars are fully equal to those of the six. More than that, the three-hour children get through the fourth standard or grade by the nine and a half year; while the six-hour children, with double the time devoted to the same studies, fail to get through before the ten and a half to the eleventh year. The cost of the long time schools is about double that of the short.

More than that, the half-time scholars show a greater aptitude of application, superior alertness and efficiency.

In this connection I would mention Roth's "Elements of School Hygiene," London, 1886; and especially the veteran Edwin Chadwick, the well known sanitarian, who died so recently; his book called "The Health of Nations," reviewed by Benjamin Ward Richardson; 2 vols., 1887.

The French law prescribes three hours in the morning and the same in the afternoon. The School Commission of the Academy of Medicine, Paris, reported in 1888, that in the primary schools, which are divided into three grades and include children from 6 to 13 years, those in the lowest school should have daily but three and a half hours, in the middle school four and a half, and in the upper school five and a half hours of mental work with two hours of bodily exercises. *But there should be no study at home.* The "Hygiene Scolaire" of Dr. Riaut, Professor of Hygiene, Paris, 1884, is an authoritative work. The time is longer in Sweden, Denmark and Germany. I would here call attention to the article of Prof. Axel Key, of Stockholm, in the *Popular Science Monthly* for November. It is a translation of his paper read before the International Medical Congress at Berlin, 1890, subject, "School Life in Relation to Growth and Health."

Opinions differ as to the limit of daily mental work in adults. Dr. Bain, of Aberdeen, says that in that city are as hard heads and as hard workers as in any other part of Great Britain, but that four hours steady mental labor are as much as is good for them. Cuvier was usually engaged for seven hours daily in his scientific researches; but they were not of a nature to require continuous thought. Walter Scott declared that

he worked for three hours with pleasure, but beyond about four hours he worked with pain. Dr. Dally, of Paris, says that a man 20 years old cannot do intellectual work with profit beyond eight hours daily. Beyond this limit there will be fatigue, cerebral anæmia or congestion, disgust and impossibility to work. Generally it is necessary to limit the time to six hours or even less.

In a conference of the Board of Health of Baltimore a few years since, Dr. Chancellor and Prof. Hill stated that their own children were being taught at home. Dr. Chancellor said that his children had begun their studies at eight years of age, at which time they scarcely knew the alphabet. From that time to the ages of 12 and 13 respectively they studied for not more than two hours daily five days in the week, and nine months in the year. They were well up in the English branches, could read, write, and speak fluently the French and German, and translated fairly Italian; were making good progress in Latin and Greek, geometry and the natural sciences.

Prof. Hill gave similar testimony. His children studied only in the morning; had begun at 8 years of age; but were quite as far advanced as school children who had begun at 5 or 6. Prof. Newell believed that with two hours in the morning and one in the afternoon, the children would learn as much and probably more than with the present arrangement.

The subject of *home studies* or preparation for school, has engaged the attention of school hygienists. Circular letter No. 26 of the State Board of Health of Pennsylvania recommends that no scholar under 12 or 13 years of age should be required to study at home. I have already quoted from the report of the Commission of the Academy of Medicine of France against home studies. M. Beurier said that it was the evening work at home or elsewhere which was responsible for over-pressure.

Dr. Crichton-Brown, in his report of inspection of the elementary schools of London, 1884, is especially caustic in his condemnation of home studies for young children. He says the principle is bad. Even when the labor is small in quantity, it stirs up and irritates an exhausted and feeble brain, and interferes with sleep. It worries and torments the child, and prevents the relaxation and entire diversion of the current of thought which ought to follow the dismissal from school. He says it is resorted to nine times in ten because the year's work cannot be done by the scholars in the regular school hours.

Dr. Roth believes that the preparation of the lessons should be made in school hours. Newsholme is more moderate. He says that home lessons should be reduced to a minimum; should not require to be done in the evening; should rather take the form of recapitulation of work

done during the day, than break into new work. That parents can best judge whether home lessons are doing harm, and should at once inform the teacher. These lessons often leave too little time for meals and recreation.

It is not to be supposed that the school hours are devoted to continuous mental labor; or that the same subject is pursued continuously for hours together. Sustained effort in one direction is quite limited, and beyond that limit, dangerous.

As to how much of a six-hour school day should be given to mental labor and how much to manual work and recreation, opinions, as might be supposed, differ; and yet most school hygienists may be divided into two classes; namely, those who demand one-third of the time for manual work and recreation, and those who demand one-half. The latter view was taken by a unanimous vote of the Congress of the French Association for the Advancement of Science, of 1883.

For continuous mental work the maximum time should be, according to Chadwick: 5 to 7 years of age, fifteen minutes; 7 to 10 years, twenty minutes; 10 to 12 years, twenty-five minutes; 12 to 15 years, thirty minutes. Newsholme says that these limits are too restricted for higher ages and interesting subjects, but that the principle is most important. The standard of mental labor may be set at arithmetic; for the average of school children, under skilful teaching, the time should be restricted to the hours named.

The model school of Brussels has adopted a uniform system for all classes, of three-quarter hour lessons and one-quarter recreation. Lessons in the natural sciences, physics, chemistry, and mechanics never more than a half-hour. Chancellor believes that there should be a ten minutes interval at the end of every hour. He also suggests that Wednesday be the holiday instead of Saturday.

The indication is to vary the subjects of instruction from hour to hour. Thus the mechanical work of writing may be followed by object lessons and experimental lectures. Language or history, which exercises the memory, may alternate with mathematics, which exercises the reason.

The capacity of attention, though of course limited, increases with age and the growth of the body, and also with skilful teaching. Some teachers, though good students and hard workers, are unable to impart knowledge. The capacity of attention is also increased by at least one-fifth by good lighting, heating and ventilating. And the morning hours are found to be better for mental work than those of the afternoon. The alternation of physical and mental work relieves the eyes, diminishing the danger of myopia; awakes attention; preserves the strength of the body, and rests the mind.

From what has already been said, it may be

deduced that at least ten minutes of the class hour should be given up to bodily exercise in some form. And in every three consecutive school hours there should also be from fifteen to thirty minutes' recess. Newsholme also suggests a few minutes' break in the middle of a study.

Where practicable the recreation should be in the open air. In this particular teachers are not as positive as they should be. Children are permitted to remain in the school rooms and even attend to some mental work, instead of being required, if their health permit, to clothe themselves according to the season and weather, and spend the recess in the open air. For this purpose of course playgrounds are necessary, and in choosing a site for a schoolhouse, the matter of sufficient playground should be one of the first requisites.

Of the forms of manual labor, I may speak only in a general way. A carpenter's shop is the form usually adopted. It well repays the cost of any expense and labor bestowed upon it. Under the supervision of the instructor the scholars can refit the woodwork of the building itself.

Cooking is useful, especially for girls, though not them alone, for many boys also take the instruction. Where practicable, housekeeping also. A writer of note, whose name I have forgotten, strongly recommends a model nursery, as part of the education of girls, in all finishing schools and training colleges. He calls attention to the ignorance of young married women in the management of infants, and says it is a cause of the unnecessarily high death-rate among them.

Of recreations there is a great variety. The simplest is the promenade; using the muscles of the limbs, trunk, abdomen and neck. The military drill is much recommended and extensively used. It is liked by the boys; it corrects to some extent some bodily defects; promotes a sense of duty, order, obedience to command, self-restraint, punctuality, and patience; and gives suppleness to the joints, making the action prompt and easy. It is found that the drill is more effectively and permanently taught in the infantile and juvenile period than in adolescent and adult age.

Beside the immediate benefit to the child, there is a large saving of time and expense in after life, when the grown man, with a calling in life, becomes a member of the National Guard. It has been found too that the use of firearms is more quickly and perfectly acquired by the educated than the ignorant. It is estimated that in England it costs as much to properly drill and teach and keep an ignorant farm hand as fifty school lads. Chadwick proposes that after the acquisition of the drill in the juvenile period, encouragement should be given for volunteer exercises in the use of firearms. It is believed that the mixed physical and mental training would

add one-third to the civil force of the country, and more than a third to its military power.

In England the naval drill is also used; and it can be readily understood that besides the advantages derived from the military drill, there are those obtained by the use of the muscles in climbing. The cavalry drill has been recommended for the middle and higher classes, where practicable.

Leaping, running, ball play, cricket, are other forms of recreation more or less available. And fencing is useful as developing the muscles of the trunk and limbs; and requiring great activity of mind and quickness of vision.

Singing and instrumental music are useful, charming the mind. Singing develops and strengthens the muscles of the chest; increases the breathing power of the lungs, preventing pulmonary disease to some extent; and lays the foundation of a correct modulation of the voice.

Excursions into the country are strongly recommended by writers as having many advantages. There is an opportunity to learn valuable lessons in natural history and become familiar with ordinary plants. The faculty of observation is developed, and the association of teacher and scholar awakens feelings of companionship and accord; the occasion is looked for as a time of pleasure; to be deprived of it is a punishment or misfortune. In Austria the boys are taught gardening; the grounds around the school being partly used for that purpose.

Visits to museums and other places of public interest afford a large field for useful and pleasurable instruction.

There is another most useful recreation which I have long thought should form part of the school curriculum. It is swimming. This of course includes bathing, which to some school children, is perhaps a novelty. The advantages of the teaching go without saying. The muscles are developed; the circulation and nerve power improved; there is much pleasure in the exercise; children become accustomed to the water; their fears are diminished, and many unfortunate accidents would be prevented. Newsholme strongly insists on it; also Sir Charles Reed, in his report to the Educational Council of London; Janssen, the Medical Officer of Health of Brussels, and Dr. Riant, of Paris. I do not know as a fact that any school board has adopted it as a part of the teaching; but the evident interest in the subject indicates that it will be adopted.

Many of the forms of recreation named are more or less available for girls; so that there is no good reason for their failing to develop a good physique.

Where gymnastics can be had, the Swedish system, or system of Ling, is that most highly recommended.

At this point I would call attention to what I believe to be a new feature in the recreations of children. In the *English Illustrated Magazine* for November is a short article describing how some of the public school buildings of London have been opened in the evenings from 7 to 9:30 o'clock, for the children to play; no study being allowed. The results have been gratifying. I am also told that the Boston school playgrounds were opened during the last summer for a similar purpose. This action is very desirable in cities, where otherwise the children play upon the streets.

As to the evil effects of over-pressure, that is an excess of school hours or lessons beyond the capacity of the scholar, it may be said in a general way that if a boy or girl eats heartily and sleeps well, it is scarcely possible that there is overwork. The average amount of sleep required from 4 to 7 years of age is eleven hours; 7 to 10 years, ten and a half hours; 10 to 15 years, nine to ten hours; 15 to 20 years, nine hours. This implies that the child sleeps in a well ventilated and properly heated room. It must be noted that parents are to some extent responsible for loss of sleep by their children, in permitting them to spend their evenings in amusements which detain them to a late hour and are often otherwise insanitary.

The more brain work a child does, the more food it requires. Half starved children, though attaining high standing in their classes, are apt to be small in stature and feeble of muscle. If the food is plain and wholesome, the best guide to the quantity required is the child's own appetite. The midday luncheon is better, at least in the winter time, if it can be had warm. In Paris, the Director of Education authorizes janitors to provide and sell to the children warm food. It seems to me that with a little effort, the same desirable result might be attained here.

Parents are in many cases responsible for their children attending school without breakfast and sometimes without luncheon. That these children should soon become fatigued and listless may rightly be expected.

A further test of the absence of pressure is in the increase in the weight of the child. Dr. Bowditch, of Boston, made 14,000 examinations of boys, and 11,000 of girls between the ages of 5 and 16. The yearly increase in weight of the boys was 4, 4, 5, 5, 6, 5, 7, 8, 10, 12, 14 pounds; of the girls, 3.5, 4, 4.5, 5, 5, 6.5, 9.5, 10.5, 10, 7.5, 6 pounds. Should a scholar fail to reach these averages it becomes desirable to inquire into his food, clothing, amount of sleep and exercise. If these appear to be sufficient, then whether there is mental strain.

Prof. Key, in the article mentioned, furnishes some useful information in regard to growth and weight, based on an examination of 15,000 boys

and 3,000 girls. It appears that children grow rapidly from March to July or August, with but little increase in weight; then to November gain rapidly in weight, but not much in height. From November to March, again, the growth is small.

The prevalence of myopia or nearsightedness among school children is well known. Some statistics are simply appalling; such as that 100 per cent. of students at Heidelberg are myopic; while on the contrary, Widmark's examination of school children at Stockholm, under 7 years of age, showed a total absence of myopia. The causes are well known; bad light, bad air, over-heating, unsuitable desks and benches, bad print and small type. Some form of ear disease, organic or functional, was found in 23 per cent. of 6,000 Berlin school children, and Drs. Sexton, of New York, and Percival, of Baltimore, are said to have arrived at similar results. Spinal curvature due to improperly constructed desks and seats and bad positions of body. Pulmonary consumption is said to originate frequently during school life from bad ventilation, over-heating, cold draughts, improper position of body, insufficient food and excessive mental strain. Digestive disturbances are frequent from the use of improper food, irregularity of meals and insufficient closet accommodations.

Diseases of the nervous system point more directly to over-pressure in the absence of other recognizable cause. Headaches are frequent; hysteria and imitative affections; found oftener in girls than boys. Dr. McLane Hamilton says, that over 20 per cent. of the school-children of New York City have chorea. Dr. Crichton-Brown says, that there is an increase of nearly 35 per cent. in the mortality from hydrocephalus, and the increase is in children over 5 years of age. And this, too, in face of the fact of a generally diminished mortality in children. I would refer again to Prof. Key's statistics showing large percentages of illness in school children.

Many writers advocate the appointment of Medical Inspectors of schools. There has been such a medical service in Paris since 1836. The city of Brussels is a model in this respect. The officer looks after whatever pertains to the subject of school hygiene, and makes report upon the same. In those cities also, he gives treatment to scholars who are in need. Elmira, N. Y., and Boston, each has its Medical Inspector, who not only oversees the school hygiene, but is an instructor of the teachers on the subject. The advantages of having such an officer are obvious.

Much school study is dry and dull. Effort should be made to have it pleasurable. Children come to school with cheerfulness and mirth. These may be developed and utilized for educational purposes. Over strict silence exacted in some schools is simply painful; it is the suppression of joyousness, the product of fear, and

incompatible with a healthy influence. No child can be healthily developed without gladness.

Examinations have been severely criticised by many school hygienists. Prof. Hallowell thinks that the wear and tear of examinations is very injurious, especially to girls. Chancellor says that in the last quarter of the year the pressure begins; and as a result, we have nervous prostration, fainting spells, nasal hæmorrhages, St. Vitus' dance, etc.

Dr. Crichton-Brown says that examinations, instead of being tests of school work, have been to a great extent the aim and guiding principle; and whatever educational fruits they may have yielded, they produce a large crop of nervousness. Prof. Huxley calls examinations the educational *abomination* of the present day, in that the young people are stimulated to work at high pressure by the incessant competition.

Examinations have an educational value, when well conducted; they detect weak points; they show how future efforts may be made more successful. They are, however, only means to an end, and a temptation to over-pressure. They do not show the best result of a teacher's work; his personal influence in the training of the mental and moral faculties; and the influence of an upright and consistent example. And they should be limited to the work actually done by the scholar.

The following description by Charles Dickens, of Dr. Blimber's school, will bear repetition: It "was a great hot-house in which there was a forcing apparatus constantly at work. Mental green peas were produced at Christmas and intellectual asparagus all the year round. Nature was of no consequence at all; no matter what a young gentleman was intended to bear, Dr. Blimber made him bear to order, somehow or other. This was very pleasant and ingenious, but the system of forcing was attended with the usual disadvantages; there was not the right taste to the premature productions, and they did not keep well. And people did say that the doctor had rather overdone it with young Toots, who when he had whiskers, left off having brains."

THE PSYCHOPATHIC SEQUENCES OF HEREDITARY ALCOHOLIC ENTAIL- MENT.

Read before the Mississippi Valley Medical Association, at Louisville, Ky., October 9th, 1890.

BY C. H. HUGHES, M.D.,

PROFESSOR OF PSYCHIATRY AND NEUROLOGY, MARION SIMS
MEDICAL COLLEGE OF MEDICINE, LATE SUPERINTENDENT
OF THE MISSOURI STATE LUNATIC ASYLUM NO. 1, ETC.

Nothing in neuropathology is now plainer than the retrograde heredity of chronic alcoholics. The alcoholic poison interferes with the highly organized physiological movements of the psy-

chical centres, arrests and perverts the complex activities of the cerebral cortex and begins a decadent and perverted neural metamorphosis that goes on from one stage of instability to another, until the final ending of all neural instability is reached (unless fortuitously arrested) in dementia or imbecility and death, when even perverted neural force can no longer be evolved. The evolution of the cerebro-psychical centres thus arrested or perverted, ends in final dissolution and extinction of type.

The neuropathic thrall of entailed alcoholism is no new theme to neurologists. It was familiar to Benjamin Rush, and the researches of Morel in the field of neuropathic degeneracy sequent to ancestral alcoholic excess, have been so often affirmed and reaffirmed by credible medical testimony that no doubt now remains in the medical mind of the power of excessive ancestral alcoholic indulgence to pervert neuropsychic function in the descendants of victims of this vicious disease.

We need not dispute the point as to whether alcoholism is a vice or disease, for it is and it may be both or either, and whether it in the beginning be one or both its ending is always in disease, which is either the beginning or continuance of a transmitted neuropathic or neuropsychopathic heritage.

If the first generation, as Morel has observed, shows immorality, alcoholic excess and brutal degradation, the second one will usually show, as he also observed, hereditary drunkenness, maniacal attacks and general paralysis or some similar psychopathic affection. The third generation may show sobriety, but instead of the transmitted drunkenness, the hereditary neuropathic perversion will probably reveal itself as Morel saw it, in hypochondria, mania, lypemania and tendency to homicide and suicide; and we shall see in the fourth and after-coming generations feeble intelligence, stupidity, early insanity and the beginning of the end of the family in extinction.

All alienists have confirmed this observation of Morel, and the fatal heritage of chronic alcoholic toxæmia is proven upon those living within the walls of asylums for the insane the world over, and in every walk of life without, and upon the cadavers of those who have died under the power of this neuro-toxic force. We no longer need the extensive clinical observations of Magnan nor the later pathological researches of Bevan Lewis for proof. The diseased arterioles, the granular degenerations of the nerve cells, pericellular and perivascular nuclei proliferation, aneurismal dilatations and exudative and indurative cerebral changes, are too familiar now to be longer doubted, and witnesses too many to be here enumerated, embracing all who have clinically studied inebriety, attest the fact that the

habitual long-continued use of alcohol as a beverage in excessive quantity in one generation makes an indelible impress upon the nerve stability of the generations that follow.

It has the undoubted power of engendering neuropathic and psychopathic conditions *directly* in the individual, besides a great number of extraneural morbid conditions, as the oft-observed and no longer doubted delirium tremens, epilepsy, insanity and imbecility, paralysis and the neuritides of drunkards show, and the morbid entailments of alcoholic excess do not stop with the individual as we have seen. They pass over in greater force to his descendants. This is the gospel of science. These morbid endowments of the drink habit are more apparent in the drunkard's progeny, for the reason that his children come into the world dowered with less power of neurotic resistance to the depressing and perverting assaults of alcohol and its compounds upon the integrity of the ganglion cells of the cerebrum and the nervous centres of the whole cerebro-spinal axis and sympathetic system.

By reason of a better organic heritage and the greater inherent power of vital resistance, the drinking person may show but little of the inroads his alcoholic excesses are making upon the physiological soundness of his cerebro-spinal and ganglionic centres. An occasional or single epileptic seizure during a debauch, or none at all, during a life given to drink, some perversions of disposition or mental depression, or a day or two of trance following a prolonged spree once or twice in a life-time, or none of these evidences of cerebro-psychical damage may so markedly appear. (The subject of alcoholic trance is largely a subject to be treated here as its forensic merits require. On this subject we content ourselves now with a simple note: *vide finis*.)

None of these positive and more directly perceptible consequences of alcoholic damage may appear directly in the individual. He may go through life moderately full of alcohol, able to attend in a fairly good manner to the routine demands of his business, to be cut off prematurely under some slight extra organic strain (for one of his extraordinary hereditary endowment of nerve resistance), by an apoplexy—cerebral or pulmonary—which another less strongly endowed for resistance by nature, would have withstood. His ganglionic centres fail him in some vital crisis, and the "silver cord is loosed" forever.

The nerve mechanism, which never escapes in the habitual or periodic excessive drinker, but more especially in the regular so-called moderate social drinker (who never sprees, though seldom refuses when asked to drink, who takes his regular evening night cap and morning eye-opener and tri-daily appetizer) is the vaso-motor system. This failure causes the pneumonic to die from an attack of lung fever of no greater severity of

causation than that of which his non-drinking fellow in the next bed promptly recovers. He may die prematurely of an over-worked kidney or an over-taxed liver, by reason of ganglionic paralysis (and I believe that over-distension of the renal circulation from the general vascular hyperæmia of over-brain-strain and alcoholic stimulation combined, are the remote causative factors of Bright's disease), and neither he nor his friends may think that alcohol has done him harm.

But look at the drinking man's children! He may have been himself a very proper and apparently healthy citizen, beginning in early life a regular business, and having acquired and filled a regular and honorable business place in the world, and never seriously sick till the last acute illness that suddenly carries him off before his physiologically appointed time.

Why is one child an idiot or imbecile, another erratic, moody, violent, visionary, melancholic, or insane, epileptic choreic, or suddenly criminal despite the best of training and environment, especially among his latest offspring, while only the children born of his loins earlier in life, when alcoholic excess had made no organic impress upon him, are ordinarily healthy in mind and body?

The habitual disturbances of organic function—morbid physiological exaltation and reactionary morbid depression, through increased vascular relaxation and consequent capillary congestion may not materially affect the integrity of function in the matured cells of the psychical centres of the parent of sober lineage, so as to markedly modify their matured and long-established habit of acting, but in the drunkard's child who starts unstably endowed by hereditary neuropathic entailment resulting from an ancestor's alcoholic excess, the resistance power of the parent or parents in early life is not in the child's organism. He is a step lower than his father or mother, or both, if they were habitual drinkers, in the scale of organic degradation, and has in consequence feeble resistance to the assaults, not only of alcohol from within, but of adverse environments from without, and they reveal this hereditary organic degradation in erratic actions, morbid, insane and criminal conduct—conduct which in them is always the offspring in whole or in part, of disease—disease within. Their environment leads them irresistibly into crime, like the circumstances without which cause in them disease their parents had not shown, and crime their parents would have resisted. Upon them, consequently, influences without their organisms resisted by others have an overpowering force.

The drunkard's child's crime is not all his voluntary crime, nor his vice engendered disease, all disease of his own making. His father, or his father's father or mother may have deliberately

chosen that which, with all its voluntary seeming in the boy, is become to him an inexorable morbid fate, appearing as immoral conduct. "The fathers have eaten sour grapes, and the children's teeth are set on edge."

With this too cursory preliminary review of what we know of the hereditary neurotic enthrallment of alcohol, we record an interesting hypothetical case, which we will suppose to cover the facts in an important medico-legal record of entailed alcoholic disease and crime perpetrated under its fatal sway.

HYPOTHETICAL CASE.

Suppose a young man approaching his majority, naturally kind of heart, not reared in crime nor in the slums of a city's poverty quarters, but in comfortable circumstances, and fairly educated among correct people, commits an unprovoked murder of one of the dearest and nearest of his friends. In his family the following abnormal traits appear: On the maternal side a grandfather is a man of excess in eating, drinking, etc.; inebriate and melancholy, and he dies of apoplexy. An only son survives him long enough to develop inebriety and die of drink in his youth. A brother is like himself, and dies a drunkard. Sisters and cousins in varying degrees, according to environment, exhibit the same failing. A grandmother at an early age drank liquor to excess, and died prematurely in consequence of excessive drink. All the sons of the grandmother's sisters died young in consequence of drink. Of the remaining ancestry of this alcohol-tainted organism, one uncle was, from early youth, addicted to alcoholic indulgence, his thirst for drink becoming finally insatiable, and he died of delirium tremens in early manhood, after previous attacks of acute alcoholic insanity. Another uncle was also addicted from his early youth to the use of alcohol to inebriety, and final melancholia and insanity with delusions of dread and suspicion. Several sisters of these two men were victims of the hereditary failing, among them the mother of the supposed young man we are considering. The boy's father, too, was in early life, before the boy's birth, an intemperate man, and the boy himself was from early puberty intemperate, unstable and choreic, and had suffered in childhood from a physical shock to his nervous system, caused by a violent fall. This young man in question, when under the influence of liquor, was a markedly changed man, and when the time of one of his periodically recurring sprees would come around, he was likewise very different from his natural self, being moody, listless, drowsy and melancholy; and after indulging in his inordinate craving and unnatural appetite, he would become exhilarated, reckless of danger, excessively cheerful at times, and extremely violent towards, and suspicious of

his best friend, filled with morbid fears and dreads and suspicious. When sober he was nervous, restless and unhappy, and whenever he got a taste of liquor he would invariably drink to excess—drinking to exhaustion, prostration and illness in consequence of his excesses. Suppose for five or ten years the life of such a person was almost one continual succession of sprees—suppose such a man after such a life, and at the close of a several weeks' prolonged spree, takes the life of his best friend by manual violence while struggling to get money from this friend who had refused it, and with the aid of an accomplice takes money, jewelry and other valuables from his person, pawns some of the things for liquor, making no attempt to escape, and not appearing to remember or realize the enormity of the crime committed, remains in the neighborhood of the murder intoxicated until arrested, remembering the fact of the robbery, but not believing the party robbed and maltreated was dead or seriously injured.

This is a common kind of inebriate crime. This picture would answer for the ordinary portraiture of the average inebriate criminal arraigned in our courts of justice. It is of necessity so drawn as not to describe personal cases that have come under my professional care, but it is true to inebriate nature, as I have seen it all too pitifully and painfully portrayed, and will answer well for a composite picture of morbid, as contradistinguished from purely immoral inebriety and crime. The picture is not overdrawn, but is faithfully true to nature.

I have purposely put in a criminal motive in the above hypothesis that the natural semblance to crime may appear just as it appears in many cases of insanity. The inebriate and the insane person act, unless totally demented, from motive more or less apparent, but the hidden springs of human conduct in both are different from those in the rational and healthy mind. A different combination of morbid influences, ancestral and immediate, in the nervous organism of the chronic inebriate or the periodic inebriate unites with his environment in the drink-enthralled man, from that which influences and determines ordinary human conduct in sane and temperate men.

1. Assuming the above hypothetical case to be true, what would be your judgment as to the existence or non-existence of hereditary alcoholic degeneracy and impairment of the brain, and the existence or non-existence of dipsomania, or involuntary and resistless impulse to drink alcoholic liquors to excess, in the case of the supposed youth, and degree of irresponsibility from drink?

2. What was the mental condition of the supposed person when he committed this unlawful deed?

3. What is the effect on the mind and on the

will of such an inherited taint, united with the state of chronic alcoholism, as in the case of such a supposed youth?

Such, with more or less completeness of specific detail, is the character of the hypothetical case and interrogatories, of late years propounded in our courts to the expert in psychiatry, for the neuropathic entailments of chronic ancestral alcoholism. Thanks to an enlightened judiciary in some of the American States, aided by the wise and judicious efforts of our medico-legal societies, inebriety has become a recognized extenuation and often complete and just excuse for crime perpetrated under its potent and often irresistible morbid influence, and the following or something like them, are still the customary interrogatories propounded, *pro forma* by the counsel for the State:

1. Is it your opinion that such a supposed person was unable to distinguish between right and wrong?

Or, perchance, the more enlightened and just interrogatory like the following is offered by the State:

"Will you say that a person so affected could not tell that an act which he committed was wrong, or if conscious that it was wrong—is it your opinion that *he was incapable of resisting the impulse to commit it* by reason of disease hereditarily entailed or acquired?"

It were fortunate for the unfortunate victim of the faulty and imperiously unstable neuropathic heritage of long-continued or hereditarily transmitted alcoholic indulgence, if a wise, humane and considerate counsel and court secure such just instructions in such clear conformity with the facts of clinical observation and experience as the last interrogatory would warrant, for inebriety either in its periodic or continuous forms is a disease, as much so as the recognized and acknowledged phases of insanity, epilepsy, idiocy and imbecility it both directly and indirectly engenders, and while in considering it in its medico-legal relations, we have also to consider the accompanying factor of a once-normal volition, we have in the inebriate a mind and will, always more or less modified, perverted, deranged by disease. Alcohol being itself a directly toxic agent, in its influence on the brain and allied nervous system as well as potentially poisonous to the blood itself in any considerable quantity, and especially so as all experience proves, when long continued, in excess, in either the individual or his ancestors.

It is, indeed, a strange phenomenon of the human mind in its forensic relations that an agent which the world recognizes and acknowledges as the parent of pauperism, insanity and crime, and the chief direct or indirect populator of penal, eleemosynary and correctional institutions, and the proven cause of so much disease,

misery and death, should be held responsible to the extent it is before our judicial tribunals, when the hapless and often hopeless and helpless victims of its vicious power are arraigned to answer for crime committed through its influence over their involuntarily enslaved organisms—organisms often prenatally predestined to pathological perversion (as most of the unfortunate inmates of asylums for the insane are organically predestined to an aberrant course of life conduct), through the alcoholic excesses or other neuropathic disorders of ancestors, or through a precocious drink-craving, however engendered, whether ancestrally or self-acquired, and prematurely and excessively indulged, to the harm of the delicate machinery of the brain.

The force of physiological habit is recognized in all of our dealings with men. Why, then, should courts ignore the power of that neuropathic thralldom which alcohol undoubtedly engenders in certain individuals, to their harm and the harm of the world about them, enchaining, enslaving and perverting conduct, until the unfortunate slave of its vicious sway is no more in harmony with his natural self, unperverted by this disease, than the lawfully and justly consigned inmate of a lunatic asylum is?

The dipsomaniac is as surely perverted and deranged in his brain and connected nervous system as any other lunatic, and the confirmed inebriate claims our sympathy and succor and the kindly consideration of the law, because he is the victim of disease. It is for humanity and law to decide in each individual instance, however, how far on the one hand inebriety should extenuate crime, and to what extent on the other it should punish the volition that may have engendered the disease. It is a plain proposition, which admits of no doubtful interpretation, that acute alcoholism voluntarily and premeditatively induced, or even voluntarily yielded to, for the purpose of committing or shielding from crime, is as culpable as any other criminal intent, while on the other hand a diseased propensity to drink, indulged in obedience to the promptings of a resistless organic aptitude handed down from father to son, or transmitted through the womb of an alcoholized or otherwise neuropathic mother, should receive a different consideration, just as any other neuropathic heritage causing psychopathic perversion, extenuates even the most heinous of crimes in the eye of the law and in the judgment of courts.

Our ancestors in the medical profession rescued the lunatic from the neglect and violence of ignorance; let us protect and save the nerve degenerate inebriate.

NOTE.—A correspondent of the *Courrier des Etats-Unis* sends from Paris, under date of September 20, 1890, the following mention of a recent trial for homicide, committed in that city

under somewhat peculiar circumstances, and of the prompt acquittal of the accused on the ground of mental irresponsibility. We present to our readers a translation:

On April 20th last, at 11 o'clock, A.M., a cry for help was suddenly heard to proceed from a house in Park Royal Street, an apartment of which was occupied by a widow, *æt.* 27 years, named Bohringer. The neighbors met a man on the threshold of her room, who remarked: "You can enter. It is all over with her. There she is,"—at the same time pointing to the young woman, who lay stretched on the floor in a pool of blood. The victim had been struck with a finely sharpened cold-chisel. After being conveyed to the hospital St. Louis, she was able to speak but a few intelligible words, and died after an agony of a few days.

The assassin, named Joseph Hahn, a widower, and the father of three children, had long paid assiduous court to the deceased, with the expectation of marriage. That he had premeditated the crime, was patent from the fact that he had hired a cutler to sharpen the chisel, the day before. It was satisfactorily shown, before the court, that Hahn was a skillful workman, that his probity was incontestable, that he adored his children, but that, when drinking, he became violent and brutal, destroying or injuring whatever was within reach.

At first sight, the tranquil face of Hahn in no way betokened insanity; but his attitude before the court and the audience was so singular as properly to raise a doubt in this regard.

The following were his replies to questions by the court:

Court. The police report represents you to be an honest man.

Hahn. Yes, I have always been honest. I have never in my life intentionally done harm to any one. But sometimes I drink too much, and then it affects my head, so that I know no longer what I do.

C. Why do you drink?

H. Because I am obliged to associate with the public in order to procure work.

C. You met the Bohringer woman in a Roquette street restaurant. Did you know that she had a lover?

H. No, I did not know it.

C. Did you propose marriage to her?

H. No; it was she who proposed it to me. We were to be married at the end of her term of mourning. We had but two months more to wait.

C. Then why did you kill her?

To this question Hahn at first replied, "I do not know;" and then, gesticulating wildly, he said, amid loud sobs, "I loved that woman as I did my eyes; she deceived me. She had an accepted lover and I did not know it. She gave me by mistake a handkerchief belonging to that lover. She had consumed my money."

Dr. Ball testified to the limited responsibility of the prisoner. "Hahn," he said, "occupies the very borderland of insanity; he is of so hysterical a temperament that he does not enjoy the full possession of his faculties."

The jury rendered a verdict of acquittal. On the reading of the verdict Hahn appeared astounded and stupefied for several minutes.

BEQUESTS TO NEW YORK HOSPITALS.—Under the will of the late Mr. D. B. Fayerweather, of New York City, several charitable institutions will be generously remembered. The Presbyterian, St. Luke's and Manhattan Eye and Ear Hospitals will fall heir to \$25,000 each, while the Mount Sinai and Woman's State Hospitals get \$10,000 each.

MEDICAL PROGRESS.

Therapeutics.

PYOKTANIN.—The literature regarding the use of these new antiseptics of Stilling-Merck is rapidly increasing, and as usual the unfavorable or doubtful results are the latest to appear. DR. LINDSTROEM (*L'arch.*, 1890) has treated seventeen cases of gonorrhœa with 1:2000 or 1:4000 solutions. In no case was there anything like abortive action observed. In all but four cases the discharge became more abundant and irritating. Eleven chancres were treated with pyoktanin mixed with chalk—the results were much inferior to those obtained with the use of iodoform and calomel.

WARM SUBLIMATE SOLUTIONS.—DR. AHL has found on the ground of numerous bacteriological and clinical experiments that an application of heat to sublimate solutions increases their antiseptic powers, and at the same time diminishes their poisonous and corrosive effects. His conclusions are as follows: 1. The antiseptic action of a solution is increased by heating it above 40° C. 2. A solution of 1-20,000 or even 1-10,000, heated to 40° C, may be used without danger in penetrating wounds of the lung, pleura or peritoneum. The bactericidal effect corresponds to that of a 1-500 cold solution. 3. A solution heated to above 40° stimulates the formative properties of the tissues and accelerates the healing process. On the other hand, a cold solution of 1-1,000 has less antiseptic action than a warm solution of 1-10,000, because the latter penetrates more deeply. 4. The cut surfaces unite more rapidly than when a cold solution of 1-500 has been employed, because of the absence of caustic effects. 5. Warm and weak sublimate solutions may be used with perfect safety as regards poisonous and toxic effects.—*Internal. Pharmac. General-Anz.*

Medicine.

TREATMENT OF OVARIAN CYST WITH THE INDUCED CURRENT.—NOEGGERATH (*Centralblatt für Gynäkologie*, September, 1890) gives an account of six cases in which absorption of ovarian growths was produced by the application of the Faradic current.

The basis of this treatment is expressed in the following sentences: The current employed has the character of quantity; that is, the induced power is strong, as is generally found in the best apparatus. The negative pole of the secondary current is introduced into the vagina mounted on an insulated handle and covered with a wet sponge, while the positive pole is connected with a large plate electrode covered with moist sponge and placed over the abdomen. The current should only be strong enough to be perceived by the patient, each *séance* should last from one-half to one

hour, and be repeated about three times each week.

In one case presenting adhesions, the current was broken at intervals of one second in the hope of obtaining more energetic action, and in this way to reach the larger growths. Treatment should be continued from six to eight weeks. The most favorable cases are those presenting mono- or multilocular cysts (myxadenoma) of medium size. In this class of cases the results are much more radical than in the use of the constant current in fibromata, as the tumors disappear completely. Of course, it has no effect upon malignant growths.

ACUTE EPIDEMIC BRIGHT'S DISEASE.—FIESINGER (*Gazette Médicale de Paris*) contributes a series of fourteen cases, of what he regards as an acute infectious inflammation of the kidneys. He admits the possible relation of the poison of scarlet fever to this trouble, but thinks that it is excluded from the absolute absence of that disease from the neighborhood. It is, of course, difficult to determine the infectious agent. M. Roux has obtained from the urine a bacillus similar to that found by Eberth; it proved harmless to rabbits, whether it is pathogenic for man has, of course, not been determined.

PREVENTION OF PURULENT OPHTHALMIA IN THE NEW-BORN.—This subject is perennial, it no sooner seems definitely settled than some one questions the method or results. Recently M. PÜRCH has (*Archives de Toxicologie*) contributed his results with both the method of Créde and Hegar-Kohn. He attributes the trouble to some infection from the vaginal discharges of the mother. That absence of vaginal discharge constitutes such a marked exception in pregnant women makes it necessary that precautions should be taken in every instance. He has used alternately the nitrate of silver solution, one part to fifty, and the cotton pledgets saturated with a solution of sublimate. Results have been equally favorable with each method. The latter he considers the simpler and most easily used in general practice. The former recommends itself for hospital use where the risk of infection is much greater.

INFECTIOUS INFLAMMATION OF THE LUNGS.—OSTHOF (*Münchener Med. Wochenschr.*) reports that he observed in the prison of Zweibrücken a large number of cases of what he regards as "infectious" inflammation of the lung, but which in their general type did not differ from the ordinary forms of croupous pneumonia. Out of 307 inmates, twenty-seven were attacked and two died. The greatest proportion was furnished by the younger prisoners. The cause of the epidemic is referred by Osthof to the unhygienic condition of the quarters occupied by the young men. The

attacks were characterized by the extraordinary severity of the general symptoms, which presented the type of a severe infection.

Surgery.

TREATMENT OF HÆMORRHOIDS.—The extreme difficulty experienced in dealing with prolapsed and engorged hæmorrhoids makes anything that will deal successfully with the symptoms, pain, itching, tenesmus and contracture of the sphincter, of great importance. An operation in many cases cannot be undertaken until these symptoms subside, or the patient will often not submit to radical procedures. Under these circumstances Alvin (*La Semaine Médicale*) recommends the application of a sponge, that is mounted upon a handle and dipped in very hot water, (53 to 66° C.) to the anal region. This proceeding is repeated five or six times at each séance. He claims that under this treatment all of the troublesome symptoms cease, the tumors are gradually reduced, and if the remedy is persisted with for some weeks the tumors finally disappear, and with this comes a sensible diminution of the anal contracture.

TRAUMATIC SUPPURATION IN THE PELVIS.—The obscurity surrounding the diagnosis of these conditions is illustrated in a case reported by RÉGNIER (*Revue Médicale de L'Est*) in which a young soldier suffered a traumatic otitis of the ascending ramus of the pubes, with the development of a retro-peritoneal phlegmon. The obscure symptoms led to an exploratory opening of the abdomen, but with negative results. The patient died forty-two days after the operation.

EXTIRPATION OF THE BLADDER.—PAWLK (*Centralblatt für Gynäkologie*) describes an interesting example of this rare operation. The patient presented herself for the first time in consequence of a severe and persistent hæmaturia. Catheterization of both ureters demonstrated that the blood came from the bladder. Palpation and endoscopic examination revealed a pedunculated polypus that was removed by galvano-cautery, through an opening in the vesico-vaginal wall; later this was closed and the patient left, apparently well.

At the end of a year she again presented herself with the statement that for eight months the hæmaturia had ceased but lately had reappeared. Endoscopic examination showed numerous sessile papilloma which were declared to be malignant, as was afterwards confirmed by the microscopic examination. A few weeks later an operation was made establishing communication between the ureters and vagina. At a later operation the bladder was completely removed; first a suprapubic incision that did not open the peritoneum was made, the bladder freed from its attachments and finally removed through a transverse incision

in the anterior vaginal wall just above the urethra. Several efforts were made to close the vagina, but they were only partially successful, a small fistula remained that allowed the urine to dribble. This the writer thinks can be closed, when a good degree of urinary continence will be secured. On the whole the operation was a great success.

HYDATID CYST OF THE SPLEEN.—CHAINTE (Revue de Chirurgie) describes an interesting case in which a laparotomy was done, followed by fixation of the spleen to the abdominal wall, drainage of the pouch, and recovery.

The patient presented himself at the Hôtel-Dieu of Lyons, suffering from severe pain in the left side and shoulder; later a smooth round tumor was found in the left flank, extending into the pelvis. The general condition of the patient was fair, but the intense pain and loss of rest had considerably reduced his flesh and strength. An examination of the urine showed nothing abnormal; the blood presented the usual proportion of red and white corpuscles; there was no evidence of malaria or other cachexie. The tumor increased in size, and three months after admission an exploratory puncture was made that evacuated about one pint of clear, slightly albuminous fluid. Microscopic examination was negative, as it did not betray any hooklets. An hour after the puncture the patient had a severe general urticaria, but no rise of temperature. Decided amelioration in the patient's condition permitted him to leave the hospital and journey to Paris, where he was admitted to the Hôtel-Dieu, where a diagnosis was made of hydatid of the left lobe of the liver, but intervention was not deemed practical. The patient returned to Lyons and attempted to resume his occupation, when the pain in arm and shoulder returned, accompanied by frequent vomiting, complete loss of appetite, and disturbed sleep. July 20, six months after the patient's first admission, an operation was made. It consisted of an incision ten centimetres in length, in the left side, over the most prominent part of the tumor. A digital exploration showed conclusively that the spleen was the organ involved. On opening the cyst a small quantity of purulent fluid escaped. The cyst was stitched to the abdominal wall and a drainage tube inserted. His condition, after the operation, was good, and one month later he left the hospital with only a slight fistula. By the following October this was completely healed, since which time the man has been in excellent health and able to follow his occupation.

The author closes with a brief description of the few published cases of hydatid of the spleen.

Gynecology.

PERSISTENCE OF THE EMBRYONAL CLOACA IN AN ADULT WOMAN.—G. SPINELLI (Revista Chir.

Clin. e Terap.) presents an instance of this rare deformity. Cases in which the bladder empties into the vagina are comparatively frequent, and again those in which the rectum communicates with the vagina, but a persistence of the embryonal cloaca involving a deficiency in both of these septa presents a subject of great interest in the development of the embryo.

G. F., 31 years of age; first menstruation at 18, accompanied by much pain, a slight discharge of pale blood for four or five months. Coitus at 15; the first approach painful, but causing no hæmorrhage. Mammæ small, flaccid and atrophic; slight depression in the hypogastric region, where upon deep palpation a small, smooth body may be felt, resembling a uterus. Mons veneris very prominent, clitoris well developed, labia majora atrophied, labia minora hypertrophied, absence of the navicular fossa and of all vestiges of a hymen. No urinary meatus or tubercle. The orifice of the vagina is funnel-shaped, ending in a folded pocket, lightly bathed with urine. Absence of the anus. The finger, resisted by a robust sphincter, penetrated the vulva with difficulty, encountering a large and intricate cavity. In the anterior wall, 3.5 centimetres above the entrance, an oval opening was found, that communicated with the bladder. The cervix was small and conical and could be felt with difficulty, owing to the complete anteversion of the uterus. In the posterior wall, 2 centimetres above the vulva, the finger entered an opening leading into the rectum.

Slight incontinence of urine in the erect posture and at the moment of falling asleep. Solid fæces are readily retained, but there is some incontinence of liquid fæces. The profession of the woman, that of a prostitute, indicates the state of the sexual functions.

The writer thinks that we have in this case an example of arrest of development in the second month. Absence of the anus he attributes to defect in the formation of the recto-vaginal septum and not to atresia. Absence of the hymen speaks in favor of the theory that it is but a prolongation of the vagina.

CONTRACTIONS OF THE UTERUS INDUCED BY ELECTRICITY.—AMANN (*Centralblatt für Gynäkologie*) has tried, in Winckel's clinic, the application of the constant current after the method of Freund. The writer had a "cupping electrode" fabricated by the same man who made that of Freund. At the time two pregnant women were in the house upon whom premature labor should be induced. The first was that of a multipara, with deformed pelvis, so that a well formed child could not be born at term. Upon examination the os would admit the end of the finger. The kathode was connected with a small sponge (diameter 2½ cm.) contained in a cupping glass

that was, with the aid of a spirit lamp, applied to the nipple. The anode with an area of ten cm. was placed upon the abdomen just over the uterus. The current was closed three times in five minutes. One minute after the last closure a distinct labor pain came on that lasted for one-half minute. A current of seven milliamperes was employed. Several times the current was made and broken, each time causing some contractions of the uterus; in one instance a series of four contractions. The patient also had pain in the lumbar region. A small eschar was produced upon the nipple where, owing to the too strong suction of the cupping glass, the skin was brought in contact with the metal rim surrounding the sponge. Unfortunately the patient would not submit to further treatment, and the result of these first trials were negative.

A second case was that of a quadripara in the eighth month, in whom the current was employed for from one to one and one-half hours twice each day, with a current strength of fifteen milliamperes. This method was employed for five days without the slightest success, as no labor pains could be induced. The current was well borne and the patient only complained of some pain in the back and a burning feeling in the nipples. On the sixth day a catheter was introduced that rapidly induced labor. While the writer's paper was in press he employed the method in a third case, but without success.

Results, while so poor in inducing premature labor, yet they were excellent when the current was used at term in delayed labor and during labor before and after the discharge of the placenta. A primipara presented herself at the clinic for examination just at the end of gestation. The internal examination did not give the appearance of one in labor. The current was employed in a strength of from six to eight milliamperes, after the third closure a pain was induced that lasted fifty seconds. Two pains followed spontaneously after opening the current. The current was employed several times at intervals of ten minutes. The pains then became regular and more frequent. Examination at this time showed a nearly terminated first stage.

The method was employed in several cases where the pains were weak and uncertain. One, a case of consumption, another of heart failure, and a third nephritis with great oedema. In all of these cases stronger and more frequent contractions were produced; in some of them it was necessary to increase the current strength from time to time.

The current was employed in several cases to expel the placenta, the results were largely dependent upon the period when it was used. Immediately after the birth the uterus reacted but feebly to the current, and the pains were too weak to expel the placenta. One to two hours later

after muscular tonus had returned, strong contractions could be induced and the uterus would empty itself.

Obstetrics.

SECRETION OF MILK IN THE NEWBORN.—VARIOT (*Remarques sur la sécrétion lactée chez les nouveau-nés, Gazette Médicale de Paris*) has observed a mammary secretion in quite a number of children of both sexes, varying in age from three days to nine months. In two cases the secretion was obtained in sufficient amount to permit of a quantitative examination, which showed that it contained the characteristic ingredients of milk, butter, casein and lactose. Out of thirty-two infants only six were found to present no mammary secretion, though in many of the remaining cases it was very slight indeed, and in some did not present a milky appearance. The terms the author uses, while not seemingly accurate, yet show a wide variation in the character of the secretion.

The writer regrets that he is not able to enter into the immediate cause and signification of this peculiar and temporary function in the newborn.

Toxicology.

FATAL POISONING WITH MALE FERN.—An account of a case of this nature is given in the *Therapeutische Monatshefte*, in which death ensued upon the administration of two drachms of the ethereal extract of male fern, given as an anthelmintic. A child, five years and a half old, was given the amount named, within an hour and three quarters, in three doses. A portion of the tapeworm was expelled in an hour and a half; then vomiting set in, followed by somnolence, twitching, and trismus lasting ten minutes. Death took place in five hours after the last dose was given. At the necropsy there was found tuberculosis of the lungs and abdominal glands; and the unusual results from a dose of the extract, such as was given, were presumably due in part to the impaired resistance to the action of the drug incident to a physique broken by tuberculous disease.—*N. Y. Medical Journal*.

Bacteriology.

EXPERIMENTAL PERITONITIS.—WATERHOUSE (*Virchow's Archiv, Centralblatt für Klin. Med.*) in a series of twelve observations confirmed the results of Grawitz, and negatived those of Pawlowsky, that a considerable quantity of a virulent culture of the staphylococcus aureus might be injected into the abdominal cavity without causing peritonitis. Also when the staphylococcus is mixed with an untried medium it causes no disturbance if the mass can be readily absorbed; the greater the difficulty of absorption the more certain the production of peritonitis. Trials were made with agar-agar, gelatine and coagulated blood, each containing the staphylococcus, and the results were positive. Pus containing the staphylococcus possessed strong pyo-

genic properties, due, the writer thinks, more to its contained chemical substances than to its microorganisms. The observation of Grawitz, that when the infection was introduced through a wound in the abdominal wall peritonitis followed was not confirmed. When the wound was penciled with turpentine an abscess was produced, but only in cases where the wound involved the peritoneum, if it extended only to that membrane and not through it, no abscess was caused. When artificial defects were produced in the peritoneum injections of the staphylococcus caused peritonitis; a similar effect was produced in animals affected with ascites. A strangulation of the intestine for some hours, similar to that produced by a hernia, invariably caused peritonitis after the injection of the staphylococcus into the abdomen or blood-vessels. The same result was reached if the coccus was injected subcutaneously, but not if it was placed in the intestine. A few observations upon man has shown that the staphylococcus may be injected under the healthy skin without danger, but that suppuration follows if the absorption is hindered or the normal conditions are altered by passive hyperæmia.

OF THE POSITIVE POLAR ACTION OF THE CONSTANT GALVANIC CURRENT ON MICROBES AND MORE PARTICULARLY ON THE BACTERIA OF ANTHRAX.—(A note presented to the Academy of Medicine, Paris, April 28, 1890, by APOSTOLI and LAGUERRIERE.) The antiseptic and microbicidal action of the galvanic current observed by one of us in 1886 has been the object of our common investigations for the last two years.

In a sealed note deposited with the Academy of Sciences August 12, 1889, we have laid down the first results of the experiments undertaken in placing the two poles at the two extremities of the same test tube containing bouillons of culture, and at short distances from each other. All our experiments have had the control of cultures and of inoculations into animals (rabbits or guinea pig). Here are our first and principal conclusions:

1. The action of the constant galvanic current on cultures is in direct rapport with the intensity of the current measured by milliamperes.

2. For a like intensity, and all other things being equal, the length of the application is of little importance. The intensity of the current remains all the time the principal factor.

3. A current of 300 milliamperes and more applied for 5 minutes kills invariably the bacteria of anthrax. The further cultivation, attempted with a culture so treated, remained sterile; the inoculation into guinea pigs without effect.

4. A current of 200 to 290 milliamperes applied for five minutes does not destroy so surely and so certainly the virulence; some guinea pigs

will still die, but in a much longer period of time, *i. e.*, more slowly, than the control animal inoculated with the culture before it was subjected to the current.

5. A current of 100 milliamperes and less after an application of thirty minutes does not destroy the virulence; an attenuation is produced which augments with the intensity of the current, and which manifests itself in this, that the animals so inoculated die a day or two later than the control animals.

Since that period we have established that these effects are independent of the thermic influence which accompanies electrolysis. And we have studied the isolated influence of the poles and of the interpolar portion of the circuit.

We can formulate the following complimentary conclusions:

1. The chlorific effects of the current can be suppressed and nevertheless the destruction or attenuation of the microbial vitality be obtained.

2. The positive pole alone destroys or attenuates the vitality of the pathogenic organisms, for whom the inter-polar action and that of the negative pole is indifferent.

3. The antiseptic action of the positive pole (in a distinct culture medium, entirely separated from the negative pole) is exercised in smaller electric doses than in the first experiments (where the two poles being contiguous attenuate their reciprocal action.)

Thus the positive pole does not destroy at 90 milliamperes applied for a period varying from nine to thirty minutes, but above that, attenuation commences and progresses gradually, to become constant with 100 to 190 milliamperes from the first five minutes.

4. The general conclusion to be arrived at from our investigations is this, that the continued current in so-called medical doses (that is, from 90 to 300 milliamperes) has no action *sui generis* on the microbial cultures in a homogenous medium, and that its unique positive polar action is limited to the development of acids and of oxygen, as we shall demonstrate in a future paper.—*Un. Medic. d. Canad.*—*Cincinnati Medical News.*

SALPINGITIS GONORRHOICA.—MENGE (*Centralblatt für Gynäkologie*) has examined bacteriologically the contents of the tube sack in twenty-six cases of salpingitis that have been operated in Martin's clinic in Berlin. In eight cases microorganisms were found; two presenting the streptococcus pyogenes, one the staphylococcus pyogenes albus, and a third a saprophytic rod, that was cultivated upon agar-agar. One case presented a diplococcus that could be stained by Gram's method; in the remaining three cases the gonococcus of Neisser was found. In eighteen other cases the contents of the tube proved to be absolutely sterile.

In one of the cases a ruptured tube sack allowed the gonorrhoeal pus to escape into the peritoneum, and raised the question as to whether the gonococcus could cause a specific peritonitis. This has been variously answered by different writers. Bumm claims that the gonococcus only invades cylinder epithelium, and negatives the existence of such specific disease of the peritoneum; Koch says the question is still unsettled. The writer regards the position of Bumm as untenable because of the fact that gonococci have been found in the knee-joint, a sack that closely resembles the peritoneum. It is possible that in old cases, the cocci may have to a great extent lost their virulence, due to the various saprophytic germs with which they have been brought in contact, or to antiseptics, these may not be able to start a specific peritonitis while the fresh vigorous germ might prove very dangerous.

A PATHOGENIC BACILLUS IN DECOMPOSED URINE.—KROGIUS (*Sur un bacille pathogène trouvé dans les urines pathologique—La Semaine Médicale*, No. 31) has found a bacillus in the purulent urine of old cases of stricture, cystitis, and pyelonephritis, which he thinks plays an important rôle in urine infection. Out of ten cases, the bacillus, which has not yet been described, was found three times. It belongs to the rod-like forms, the length varying from 1.8 to 3.6 μ , with rounded ends. It does not produce spores, and is easily stained by the aniline colors, which are easily removed by the method of Gramm. It liquefies gelatine, and gives off the ammoniacal smell peculiar to decomposed urine. Urea is rapidly changed into carbonate of ammonium and water. Pure cultures injected into the veins or peritoneum of a rabbit produced death in from two hours to a few days. With age the culture increases in virulence. After vaccination, the part is reddened, swollen, and later gangrenous, after which the dead portion is cast off, accompanied by an ammoniacal odor, fever convulsions, and coma. Sterilized filtrates obtained with a porcelain filter present the same toxic symptoms. The writer names this germ the *uro-bacillus liquefaciens septicus*.

THE CHOLERA POISON.—THE JOURNAL has of late frequently referred both in "Progress" and editorially to the advances that have been made in isolating the peculiar toxic substances produced by certain pathogenic microorganisms. Researches of this kind have followed so rapidly of late, that it is hardly possible to keep our readers fully informed on these important topics.

WINTER and LESAGE (*Contribution à l'étude du poison cholérique*, *Bulletin Med.*, No. 29) have obtained a peculiar toxic substance from bouillon cultures of the cholera bacillus. They first precipitate with sulphuric acid, redissolve in an al-

kaline liquid, precipitate again, and then dissolve the precipitate in ether. This is dried with steam over ether when it appears as oily drops that soon harden into yellow fat-like masses, insoluble in water and acid solutions, but dissolved by ether and alkaline solutions. The amount of this substance obtained from a given culture is directly dependent upon its virulence.

Small doses of this substance (0.001 to 100. grams body weight) in watery solution injected into the stomach of a guinea pig produces a chill and rigidity in from four to six hours, followed by death at the end of twenty-four. With larger doses the fall in temperature comes in one-half or one hour, and death in from twelve to twenty hours. With weaker doses a slight reaction is produced and at the end of twenty-four hours the animal is again in a normal condition. If it is examined during this period it presents typical cholera lesions. Rabbits react but slightly to intra-venous injections. The toxic substance can be recovered from the muscles, liver, kidneys and urine. Rabbits are killed only by repeated injections when they also present the typical cholera lesions. Owing to the fact that the substance is insoluble in acid, it was found that when lactic acid was given within five hours after the toxic dose, the animal was saved.

New Instruments.

A NEW NASAL DOUCHE.—E. PIUS (*Ref. Correspondenz-Blatt für Schweizer Aerzte*) describes a new form of nasal douche which he says is, in a measure, free from some of the difficulties and dangers attendant upon the use of Weber's or Politzer's instruments. It is extremely simple in construction, consisting of a flask with perforated cork containing two glass tubes, one terminating near the top of the flask, and the other extending nearly to the bottom. Both tubes are bent to a convenient angle, the longer one terminating at the external end in a bulb that readily fits the nostril. The method of using is simply to fill the flasks with liquid and then blow into the short tube, thus increasing the pressure in the flask so that the liquid is forced into the nostril back into the naso-pharynx, whence it escapes by the opposite passage. The writer claims several advantages for his instrument: first, it is cheap and easily constructed; second, it is free from the difficulty that many persons experience in using the douche; third, pressure is limited to the force exerted by the respiratory muscles; fourth, the contraction of the palate muscles, as well as the forcible elevation of the palate, tend to assist in closing the Eustachian tubes. He says that a considerable quantity of fluid (1 to 3 litres) may be comfortably blown through the nose with but little danger. In thirty patients with over 100 injections, he had never seen any unpleasant consequences.

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THE NEW VOLUME.

With this first number of its sixteenth volume THE JOURNAL proffers to its readers the salutations of the New Year. As the representative of the Association it stands in peculiar relationship with a large constituency. The work of your creation, it is amenable to the membership for its action and for its utterances. It cannot serve the personal or pecuniary interest of any man, house or firm. It may not speak with individuality and personality such as is warrantable where an editor speaks only for himself, and is only answerable to himself for his expressions. Happily, the legitimate purposes of medical journalism are best attained and medical science is best served, where all personalities are lost sight of, and when, in its conduct, political and ambitious purposes and pecuniary profit are not permitted to exert any disturbing influence. Its best work can be accomplished in the absence of such entangling alliances. If it shall address itself to its legitimate sphere THE JOURNAL has before it a year of most important service.

The unsolved questions which confront the medical profession were never so varied, so vital, so profound, as they are to-day. The eminent men engaged in their solution were never before so many, so cultured, or so well equipped for service. Original research and experimentation in many and varied ways will be the characteristic labor of the coming period. A most profound impression has been made upon the public mind by reason of the alleged discovery of new and most remarkable methods of cure. These,

if true, are to be verified. New methods are at hand in every department of medicine and surgery. A restless spirit of investigation is everywhere being developed. Destructive criticism follows hard upon the pathway of reckless assertion—at a time when its restrictive service was never more in need—and a larger number of attentive readers than before await the utterances of the medical press.

Our journals will be taxed to their utmost in the effort to correctly represent to the medical profession at large the results of current investigation. Bacteriological studies, and the question of the agency of microorganisms in the production of specific diseases, will more than ever command the field of medicine.

The brilliant achievements recently made in surgery must serve as an inspiration to other, and if possible better, work; not more in lines of theoretical than in those of operative procedures.

The more important specialties have won their *raison d'être*, and are here, not simply to be, but to demonstrate the greater value of their special service.

The profession is best served when the utterances of its ablest men become the common property of the world through the agency of journalism. The dissemination of knowledge and the elimination of truth from error in medical teachings is the high purpose to which the medical press is everywhere called.

To this purpose, in connection with its special service to the American Medical Association THE JOURNAL will address its earnest effort. To this end it invites to its pages the reports of the best work done either by individuals or organizations. It will seek to keep its readers well informed as to special phases of medical progress as they present themselves, not only at home, but in other lands as well. To the furtherance of its interests we feel that the membership of the Association stands peculiarly committed. A harmony of purpose is essential to the highest interests both of the Association and of its Journal. To the promotion of this end we shall also address ourselves, confident that such service will command the hearty sympathy of the members of the Association, without whose cordial cooperation THE JOURNAL can not succeed, and with which, it cannot fail.

AMERICAN ACADEMY OF MEDICINE.

The Academy, at its annual meeting, held at Philadelphia, manifested additional and practical evidence of its continued interest in the subject of liberal preparatory education of students in medicine. It showed active work, also, in the cause of higher medical education.

Acting upon a recommendation in the president's annual address, the Academy voted to confine its efforts in future exclusively to its missionary work. Other medical organizations have become so numerous since the Academy was established that ample opportunity is afforded elsewhere for the presentation of all papers on purely medical subjects. This action on the part of the Academy makes it the only medical body in this country devoted exclusively to medical missionary work. It thus acquires a distinctive character.

Beginning its efforts at the foundation for profitable medical study,—proper preliminary mental training,—it has outlined a curriculum of study which it advises as qualifying to begin the study of medicine. One of its committees has been investigating the curricula of the different literary colleges of the United States, with a view to ascertaining their relative advantages and the comparative value of the literary degrees which those colleges confer. A report made by this committee at the Academy's recent meeting showed great differences in both respects.

Other committees report, from year to year, upon subjects connected with preliminary and medical education—such as the amount of preparatory mental discipline required by the different medical colleges for matriculation of students of medicine, and their methods of determining that fact. Another committee reports each year upon the laws of the different States to determine the qualifications, professional and otherwise, of candidates for license to practice medicine where such laws exist—including the standard adopted by those States, the method of ascertaining the qualifications of applicants, the mode of enforcing the laws, requirements, penalties for violations and kindred subjects.

Having thus begun by judicious encouragement to young men to pursue such preparatory courses, and seeking to give reliable direction in their medical study, and evincing appreciation of the medical colleges which afford the best facilities for their students, the Academy, in accord-

ance with another of the president's recommendations, decided to take an additional step in advance. It will endeavor to secure, through its Fellows resident in the different States, coöperation of the medical organizations of each State looking to legal enactments of all of the States to regulate the practice of medicine by granting, hereafter, licenses to practice only on examination, and regardless of the possession of diplomas issued by medical colleges. Such enactments have a twofold effect: They make colleges, in effect, simply teaching bodies—which is their proper function—and they secure in future, for the protection of the people, physicians who are required to demonstrate to the constituted authorities of the State their qualification for the work in which they are seeking to engage, and they expose the pretensions of the unqualified. Such legislation accomplishes, by enforcing its requirements, what the Academy has been seeking to effect by other means in the interest of scientific medicine, which means interest in the health and welfare of the people of the States. Thus it becomes an instrument for conserving the material interests of the States themselves.

It is an encouraging feature of the times that some six hundred of those who are recognized as being amongst the most liberally educated of the physicians of our country are united in a voluntary effort, and proceeding, at their own expense, in an unostentatious and systematic manner in an effort to remedy recognized educational defects, and thus to elevate the profession of medicine, thereby benefiting mankind.

In such an unobtrusive manner has much of the Academy's preliminary work been done that it has attracted comparatively little attention. What has been accomplished merits recognition and commendation. Its efforts are such as should receive the cordial and energetic support of the medical profession of the whole country. Well considered and just legislation in this regard in all of the States would prove advantageous to the public and creditable to the profession which advocated and aided it. Work having such objects in view commends itself to THE JOURNAL.

DESERVED HONOR.—The King of Greece has named Professor Brouardel, the eminent French medical jurist, Commander of the Order of the Saviour.

MAJOR VERSUS MINOR GYNECOLOGY.

It would be regarded as a strong corroboration of the popular view as to the disagreement of medical men, if a paper recently read before the Philadelphia County Medical Society,¹ arraiging minor gynecology as a potent factor in the production of morbid conditions necessitating major gynecological operations, should find its way into the columns of the lay press. The idea deduced from it by the casual reader might be that much of this kind of operative work, performed by young and inexperienced meddlers, or by others who might be good enough operators, but not sufficiently discriminating as to times or methods, or as to personal aptitudes of the patient, would lead eventually to virtual failure, after which the sufferers would naturally seek advice and assistance from those occupying a higher plane of surgical skill and manipulative proficiency.

The inference from perusal and study of this paper was inevitable, that there are two distinct classes of gynecological practitioners: 1, those who habitually practice Emmet's operation, introduce uterine sounds, electrodes and caustics, under the least pretense, and frequently with no better plea than that they do not know what other treatment to adopt; and 2, those who rarely indulge in any of these expedients, but perform, in the surgical diseases of women, bold and intricate operations, which have been rendered necessary by the blunders, inexperience and lack of judgment of the first-mentioned class.

These are matters, however, which must be settled by the gynecologists themselves. It would be considered an act of presumption for those who are without the pale of this specialty to sit in unsolicited judgment upon the merits of the question at issue. Doubtless minor gynecology is responsible, in many instances of meddlesome surgery, for the persistence and augmentation of suffering and the postponement of the healing process; but it is a question whether the advanced surgeon may not be throwing too much discredit upon the minor gynecologist (admitting, for a moment only, the existence of two such distinct classes of surgeons), and laying too little stress upon the intensity of the original morbid condition.

There has been so much outspoken criticism of major gynecology, its boldness and apparent reck-

lessness, that a flank movement attacking minor gynecology and holding it responsible as a causal agent in the production of surgical diseases, may divert attention into another field. We are sure, however, that the writer of the paper in question was honest in his animadversions, and had no such motive in view; but we are greatly surprised that, in the discussion in the Philadelphia Society which followed its reading, some of the excellent minor gynecologists of that city, whose ability, skill and erudite touch are recognized, did not rise to the full measure of the occasion and speak a few good words of commendation of the benefits to suffering humanity sometimes derived from minor operations judiciously performed, or of condemnation of the evil effects of often ill-timed and startling surgical exploits. Certainly more might be said in defense of sensible minor gynecology than was elicited at this meeting. Perhaps on some future occasion the other side may have an opportunity to make itself heard.

THE SITUATION AT BERLIN.

There is so far but little change in affairs at Berlin, unless there be a waning subsidence of the excitement. KOCH, according to the secular press, as the recipient of an enormous mail, and the daily besetments of applicants for relief from all parts of the world, has been compelled to betake himself to the Hartz Mountains for a two weeks' vacation, leaving EWALD in command of the pressing hosts at home. Meanwhile his personal desire, as persistently iterated, is for the opportunity to investigate in other fields and to complete his arrangements with the Prussian Government for the preparation of his "lymph." He still claims no discovery of a cure, and pleads for more time to fully verify his experiments. In the trying ordeal of so dizzy a reputation he sustains himself grandly, avoids press interviews and remains the same simple, honest man of yore. So far as the situation at home is concerned, many new names are heralded in the prints of the day, many shadowy opinions are broached, some insinuations of dishonest acquisition of the "lymph," and a controversy regarding the dose as bitter as the contest between the Big-enders and Little-enders, has become somewhat of an incident—all of which prove that the East is not always the source of wisdom. Until we can fairly distin-

¹ See THE JOURNAL, p. 656, Vol. xv.

guish between voices and echoes, as well as learn to respect the physicians extra-ordinary to the public, we prefer to withhold our verdict as to the permanent results.

EDITORIAL NOTES.

POPULATION OF THE UNITED STATES.—The Census Bureau has declared the population of the United States in June, 1890, to have been 62,480,540, exclusive of white persons in the Indian Territory, Indians on reservations, and the people of Alaska. If these figures are correct, the absolute increase in the population of the country since 1880 was 12,324,757, and the percentage of increase 24.57.

FAITH CURE IN AFRICA.—Several Americans who had gone out to Africa as missionaries, depending upon miraculous aid to resist the climate, have sickened and died. They were attacked with fever, and refused to employ medical aid. The number of such cases being likely to increase, the Governor of Sierra Leone has issued a proclamation that the climatic conditions are adverse to believers in faith-cure, and that hereafter white people will be compelled when ill to accept the services of a physician.

THE HEART IN ATHLETICS.—A British surgeon states that of 5,000 decrepit or aged soldiers that have been brought under his notice, fully 80 per cent. were suffering from cardiac trouble in one form or another, due to forced exertion. He predicts that as large a percentage of the athletes of to-day will be found twenty-five years hence to be the victims of the same causes engendered by muscular strains. With regard to the effect of exercise on the prolongation of life, it may be said that there are more people living in France who have passed the age of 60 than there are in England, the home of athletic sports, and there is probably no nation in Europe more averse to muscular cultivation for its own sake than the French. Great athletes die young, and a mortality list of Oxford men who had rowed in the 'varsity races, shows that a comparatively small percentage of them lived out the allotted time.

A BILL has been introduced in the Georgia legislature to prohibit physicians and drug clerks who are addicted to the use of whiskey or opium from practicing their profession. For the first

conviction of being drunk a fine of \$200 is imposed, and for the second the license to practice is revoked.

PROPOSED LAW AGAINST HYPNOTISM.—The following legislative measure has been introduced to the Chamber of Deputies of Belgium by the Minister of Justice: Article 1. Whoever makes a public exhibition of a person hypnotized by himself, or anyone else, will be punished by imprisonment from fifteen days to six months, and with a fine of from 26 to 1,000 francs. Article 2. Whoever, not being qualified to exercise the healing art, hypnotizes a person who has not attained the full age of 18 years, or who is not sound of mind, will be punished by imprisonment from fifteen days to one year, and to a fine of from 26 to 1,000 francs, even if the hypnotized person has not been exhibited in public. Article 3. The punishment of imprisonment will be used against any person who, with a fraudulent or malicious intention, makes a hypnotized person write or sign an act stating any agreement, disposition or declaration. The same punishment will be applied to those who take advantage of agreements so attained.

IMMUNITY OF JEWS FROM TUBERCULOSIS.—Dr. G. A. Heron has just published a work on "Evidences of the Communicability of Consumption" (Longmans). He dwells upon the immunity from tuberculosis of carefully conforming Jews, whose meat is inspected in a manner which would require the rejection of the entire carcase, if any speck of tubercle were discovered. Dr. Heron believes about 4 per cent. of the animals slaughtered for food in Great Britain are more or less affected by tuberculosis. He admits there is probably no room for doubting that a complete sacrifice of the infected animals, such as would be required by the law and practice of the Jews, or even in some Gentile communities in which an inspection of meat is rigidly enforced, would become by the diminution of disease which it would bring about, a distinct source of saving to the public.

THE INSANE POOR OF NEW YORK.—The new State Hospital for the Insane at Ogdensburg, New York, has accommodations for 200 patients, but when completed will hold 1,500. It will be occupied during the current month by pauper insane drafted from the county almshouses along

the northern tier of counties. It will be known as the St. Lawrence State Hospital. The appointments have been partly filled, Dr. P. M. Wise being Medical Superintendent and Dr. J. M. Mosher, First Assistant; this class of appointments is now under the regulation of the Civil Service Commission of the State, after free competitive examination. It remains to be seen if the county authorities will obey the orders of the Lunacy Commission to transfer patients to the State Hospitals. In one county at least the superintendents of the poor seek to evade such an order by protesting that there are no funds at their command with which to meet the expenses of removal. Instead of obtaining an appropriation the matter was referred to legal counsel for the purposes of opposing the order.

ANOTHER POST-GRADUATE SCHOOL. — The medical profession of Brooklyn, N. Y., will next year have the advantage of a post-graduate hospital and school. The plans of its conductors include an institution that will in the end afford practical instruction to three hundred or more students. The college will be governed by a medical board of regents. Every branch of medicine and surgery will eventually come within the teaching programme of its faculty.

THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO has recently added to its faculty: J. Frank, M.D., and Edmund Andrews, M.D., Surgery; Stanley P. Black, M.D., Wm. E. Quine, M.D., Norman Bridge, M.D., General Medicine; W. W. Jaggard, M.D., Obstetrics and Gynecology; D. R. Brower, M.D., Neurology; J. Nevins Hyde, M.D., Frank Montgomery, M.D., Dermatology; Henry Gradle, M.D., Otology; Charles W. Purdy, M.D., Renal Diseases, and Rosa Englemann, M.D., Diseases of Children. The School has recently moved into its new building in the business centre of the city from whence the various hospitals and dispensaries can be most readily reached. The building contains a dispensary, hospital and operating rooms for clinical teaching in all departments of medicine and surgery; chemical, microscopical and experimental laboratories for the study of toxicological chemistry and urinalysis, histology, pathology including bacteriology, experimental physiology, pathology and surgery, and a dissecting room for operative work on the cadaver and living animals. An amphitheatre adapted

for lectures to large evening classes—a reading room during the day. In addition to the daily clinical instruction throughout the year the school will give four special four weeks' courses, designed to afford unusual opportunity for very complete study for clinical diagnosis, pathological diagnosis, operative surgery, the histology, physiology, pathology, and surgery of the eye, ear, nose and throat. The demand for post graduate clinical study is beyond question. The Post-Graduate Medical School provides the above special courses in exceptional completeness, believing they will be sought by many students who demand thorough work.

AN EMBRYO MEDICAL COLLEGE IN MID-CHINA.—At Hang-Chow, in mid-China, there exists a large mission hospital under the charge of Dr. Duncan Main. The Chinese appear to have no word descriptive of a hospital so the name commonly given by them to this institution is "The Universal Benevolent Healing Office," a title that is not unmerited as to the gratuitous and tireless work that is performed by its conductors. A medical class, embryo of a possible future college, is in constant training at the hospital, and last year eight of its students were graduated at the end of a five years' course, and all are setting forth, in turn, to do medical missionary work among their countrymen. An illustration, from photograph, of the present hospital shows it to be a commodious and truly handsome structure: it was erected especially for hospital purposes in 1885.

APOPLECTIFORM NEURITIS. — Recently there have been reported several cases designated under the name above given. The disease was, in every instance, limited to the brachial plexus, and was characterized by a very sudden and complete loss of sensation and motion in the arm of the affected side. This was quickly followed by wasting of the muscles, and the electrical reactions were those of degeneration. Dejerine has recently reported a case where death occurred in consequence of some pulmonary disease, and where a post-mortem examination of the brachial plexus revealed the fact of a former hæmorrhage into that plexus. This condition was not anticipated, but it very fully explains the apoplectic mode of onset, and also demonstrates that a hæmorrhage may occur into the peripheral as well as into the central nervous system.

TOPICS OF THE WEEK.

THE VENTILATION OF CHURCHES.

Nowhere have the problems of ventilation been found to be more difficult of solution than in large public buildings. We might say in regard to many if not most of these that in this particular matter bad is the best result that has been attained. It must also be admitted that the state of churches generally proves the rule above stated, but not by way of exception. We may well ask, Why is this? Surrounded with spacious windows, furnished with ventilating panes, with several doors, and with a high and arched roof, why is it that their atmosphere during times of worship is so often offensively close? In different cases we should probably find different structural deficiencies contributing to this result, with, however, the same consequence in all—defective aeration. One, if not the principal, fault in construction in many of the older buildings is the want of outlets, or of a sufficient number of them. Such openings as do exist are better fitted to act as inlets than as exits. In buildings thus constructed a change for the better would be most fittingly inaugurated by the formation of two or more large roof outlets with revolving cowls. The allotment of floor space is also an important consideration. This, however, is a rule contrived with a reasonable regard for health considerations. It is only in the event of overcrowding that all individual rights are overwhelmed in the common crush, and wholesome breathing air becomes more scarce than standing room. The gallery system, also, if adopted on any considerable scale, is open to adverse criticism. By accommodating more sitters it necessarily increases what we may call the breathing surface, while at the same time it lessens the available air space. If constructed at all, the gallery ought to be of the lightest description compatible with due stability. The correction of the evils we have thus briefly touched upon, and especially the formation of roof outlets to promote the escape of heated and impure air, will go far to obviate such occurrences as that of ladies fainting in church, which under present conditions is only too common.—*Lancet*.

THE USE AND ABUSE OF HOSPITALS.

With regard to general hospitals of large size, there is a growing feeling both within the medical profession and among practical sanitarians and administrators that they are open to many objections. In the first place, they are an unscientific anachronism, the crowding together of such a vast number of diseased persons being as much out of place in cities as intramural burial of the dead. Indeed, it is extremely likely that the germs derived from such accumulation of every form of disease are more dangerous to the community than those which, after several years, may emanate from dead bodies. There is no doubt that patients suffering from different kinds of disease, poison the air with their exhalations and, in many cases, exchange microbes, till recovery becomes difficult even for the strongest.

The second objection to large hospitals is that, for

practical purposes, the relief which they afford may be said to be indiscriminate. This feature, from its inevitable tendency to engender and foster habits of improvidence in the poorer classes, makes it stink in the nostrils of economists. I do not hesitate to say that the out-patient department in hospitals, where the patients contribute nothing towards the expense of their treatment, is the greatest pauperizing agency at present existing in this country.

The third objection to general hospitals, as at present organized, is their cruel hardship which their indiscriminate charity inflicts on the medical practitioners in their neighborhood. These men find the competition of the hospitals simply ruinous; for, however they may lower their fees, they must still be in the same position relatively to those institutions, as the gentleman who stole the raw material to make his baskets was to his rival who "conveyed" his baskets ready made.

The out-patient department is defended by the hospital authorities, on the ground that a large selection of cases is necessary for the training of medical students. This sounds very plausible, but it will not bear examination. The educational plea is only a pretext. The real reason of the laxity in admitting out-patients is the desire to make a goodly show of work in the eyes of the public, with the object—perfectly legitimate in itself—of attracting subscriptions.

The objections that have been raised to special hospitals are numerous, though careful consideration will show that, in the main, they are unfounded. The superior persons who advance these objections, ground their opposition on the alleged fact, that the special institutions draw many cases away from the general hospitals, and thus often leave insufficient material for the teaching of students. It may, however, be asked, how it is that the special hospitals attract from the older charities persons suffering from particular diseases. The obvious answer is, that the patients find that they are more quickly cured in the special hospitals. The only question, therefore, to be decided is, whether the interests of the patient or those of the teachers of the healing art are to be considered as the more weighty. I have little doubt myself, that, in the opinion of the public generally and of the subscribers to the hospitals, the welfare of the patients will take the first place.

A more practical objection to special hospitals is, that they are supposed by some people to divert subscriptions from the general hospitals. I do not believe, however, that this objection is well founded.

The bad effects of gratuitous medical relief have been abundantly shown, and it is not denied that they exist, to a very large extent, not only in London, but practically everywhere throughout the country. The time has come when the abuse must be abolished. But how is this to be done?

Aggrieved practitioners, who have had the bread taken out of their mouths by the hospitals, have sometimes said in their haste, that the out-patient department should be reformed altogether out of existence. This drastic remedy, however, would probably defeat its own object. The real remedy for the congestion of the out-

patient department is depletion. All cases, in which a genuine claim to the receipt of gratuitous hospital relief cannot be established, should be eliminated. For this purpose two things are necessary—viz., a definite water-line of poverty, above which charity is not permitted to extend, and an adequate system of inquiry to prevent imposture. The difficulties of such a system of inquiry are great. But at Manchester, in the course of a few years, a well-organized system of investigation has reduced the proportion of cases in which hospital charity is abused from 42.32 to about 6 per cent.

I approve of the Prussian law, by which all workmen are compelled to insure against sickness. The amount of insurance is $1\frac{1}{2}$ per cent. of the wages earned. Of this, one-third is defrayed by the employer, the remaining two-thirds being deducted by him from the workmen's wages before they are paid. My own plan would be that the Poor Law infirmaries, the hospitals and the provident dispensaries should be combined, so as to form one large system of eleemosynary medical relief, somewhat on the lines of the French *Assistance Publique*, under the control of which are all the hospitals and dispensaries in France. I am strongly of opinion that a small charge to out-patients at hospitals, carefully graduated according to the patient's means, would, of itself, do much to diminish the evils now existing. In the Prussian hospitals payment is universal. All sorts and conditions of patients are freely admitted, and patients are divided into three classes, according to the rate of payment.—Sir Morell Mackenzie, *The Contemporary Review*, London, October, 1890.

JENNER AND KOCH

Habent sua fata magistri; the reception and diffusion of Jenner's great discovery was different from that of Koch by all the differentiation between the close of the eighteenth and the close of the nineteenth centuries. Jenner, after twenty-one years spent in maturing and perfecting his idea, had to wait long, in those days of slow traveling and undeveloped journalism, before it became public property. Koch, on the other hand, has positively had to suffer from the feverish haste with which his "cure" has been caught up and applied. Vaccination had for years to struggle with opposition and distrust; the injection of the Koch liquid has been so promptly appreciated and put in practice that it is already sharing the reaction inseparable from too sanguine expectation. It is in Germany that the contrast in the fortunes of the two discoveries is most keenly felt, and Stricker's classic monograph on vaccination is appealed to for points of dissimilarity between the slow advance of the one and the "leaps and bounds" of the other. It was not till July, 1801, that the Prussian Medical Department, for the first time on the Continent, issued instructions to all "Collegia Medica et Sanitatis" to give vaccination a trial. In June, 1802, the same official authority lent its *imprimatur* to the practice, and in October of the same year the Anti-Small-pox Vaccination Institute was established at Berlin. Popular literature, sermons from the pulpit, dramatic representations, and copy-book apho-

risms in schools, had all to be "pressed into the service" as means to awaken the public mind to the importance of vaccination. A specimen of the "Vorschriften zum Schönschreiben" by which the juvenile intellect was weaned from the dread of the prophylactic innovation is the following, taken from a publication at Coburg and Leipsic in the year 1805: "Ignorant and ill-disposed people, who will neither understand nor adopt what is good, have spread abroad lies of all kind against health-giving vaccination." At Magdeburg about the same time, "The Cow-pox," a family scene in one act, was produced and dedicated by the author, Professor Rambach, to Dr. Welper, as the "savior of his children," the piece closing with the introduction on the stage of the children in question, each with well-developed vaccination marks on his arm. By such methods had the good German public, at the beginning of the nineteenth century, to be educated out of their well-grounded dread of inoculation, and into a hearty adoption of vaccination. With Koch's discovery, on the contrary, the profession is laboring to tone down a too roseate expectancy, and thinks it has scored a point when the question has come to be asked: "At what stage of tuberculosis is cure possible?" Meanwhile Koch himself, who is in no way to blame for the unreasoning enthusiasm his discovery has evoked, continues to perfect the system which has already cost him sixteen years' work.—*Lancet*.

A TRIBUTE TO THE PROFESSION.

In Fargeon's story, contributed to the Christmas number of *All the Year Round*, there is a graceful reference to the profession. Some of our best novelists have written in a similar strain: "I cannot refrain here from paying a tribute to this kind gentleman, whose life is an honor to the profession he adorns. But, indeed, in what ranks of professional labor can more unselfish kindness be found than in the ranks of those who minister to the sick? Surely there must be some beneficent influence in the work they do that humanizes and softens the heart, that makes it respond willingly and cheerfully to the appeals of those who suffer? Numberless are the instances that can be adduced of the wonderful goodness of doctors, renowned and eminent, who sacrifice their time without expectation or desire of return for the inestimable services they render. I have no hesitation in saying that, of all arts, it is the most ennobling and beautiful, and that its record of kind deeds is matchless and unapproachable. With all my heart I say, 'Heaven bless the doctors for the good they do, for the good they are enabled to do!'"

MEDICAL FEES IN RUSSIA.

According to a contemporary, the Medical Council of St. Petersburg has under consideration a project to fix the fees of medical men. It is intended to divide patients into three classes, according to their pecuniary capacity; and again, to divide towns into three categories, according to population. In accordance with this classification there will be nine fees, ranging from about twenty-five cents to five dollars.

PRACTICAL NOTES.

BEEF-TEA AS A NUTRIENT.

Dr. E. B. Ward (*American Lancet*, November, 1890) vigorously condemns beef-tea as a delusion, and sums up in the following words: "Thousands of sick people have been starved to death on this diet, and I want to enter my solemn protest against it before it is everlastingly too late. What you want is the albumen and fibrin of the meat. . . . The moment you coagulate these ingredients by heat you render them practically indigestible. . . . Good milk is preferable always, but if you must give beef-tea, never boil it. Liebig says 120° F. is the highest temperature to which it should be subjected. It is not very inviting in its general aspect, but it holds in solution the ingredients that you want and which are rendered useless for a weak digestion by boiling. Liebig's plan is to add a little hydrochloric acid." He thinks good rich milk punch, however, is far preferable.

DISINFECTION OF THE HANDS.

Ball has carefully investigated the subject of disinfection of the hands, in order to establish a routine which shall be sufficiently thorough to be sure of complete sterilization even with previously infected hands, and at the same time sufficiently simple to be properly carried out by any one. His experiments show that the following method answers these requirements better than any other, and that if the details are completely carried out, all microorganisms are removed:

1. The finger-nails, whether long or short, are first freed from any visible dirt with a knife or scissors.

2. The hands and nails are then scrubbed with a nail-brush for three minutes with warm water and a potassium soap.

3. The hands are then washed for half a minute in a 3 per cent. carbolic acid solution and then in a 1-2,000 solution of corrosive sublimate.

4. Finally the places under and around the nails are rubbed with iodoform gauze, previously soaked in a 5 per cent. solution of carbolic acid. —*Boston Medical and Surgical Journal*.

THE THERMOMETER IN THE EARLY RECOGNITION OF PHEGMAZIA.

H. Stapfer (*Revista de Ciências Médicas*): Since 1874 Siredey taught that there is danger ahead if the temperature rise during the puerperal state before the fifth day, and that the peril is extreme if the breasts remain empty or subside. And Vidal says: "After long and rigorous examination we may affirm that septic mischief is always preceded by a febrile condition." But we

must not rely upon the pulse, that is influenced too much by anxiety or emotion to be trustworthy; it is the thermometer alone which will unerringly guide us in these cases. The temperature is always a little raised during the first three days, and one of 99°, rising perhaps to 100° in the evening, may hardly attract the attention of the doctor, especially as the patient feels perfectly well and the pulse is natural; but there is danger at hand, nevertheless, and unless care be taken, its source determined and removed, it may become very serious indeed. Therefore, when in attendance in these cases, never neglect the thermometer; there is no adviser so faithful, no reaction more delicate, and above all, no previsor so certain as this. —*Provincial Med. Jour.*

MENTHOL IN THE VOMITING OF PREGNANCY.

Menthol has been recommended (*Repertoire de Pharmacie*, February 10, 1890) in the treatment of the obstinate vomiting of pregnancy. One part of menthol should be dissolved in twenty parts of alcohol and thirty parts of simple syrup, one teaspoonful being given each hour. This prescription is claimed to be extremely successful in arresting nausea and vomiting. —*Therapeutic Gazette*.

LEUCORRHOEA AND BLENNORRHOEA IN WOMEN.

Dr. Luauud, in *Jour. de Méd. de Paris*.

R Creolin, gtt. xxx.

Ext. fluid hydr. canad. fl. drachm ijss.

Sig. Two teaspoonfuls in a pint of warm water to be used at one injection.

As an urethral injection the following formula is used:

R Extr. fluid hydrast. canad., gtt. xxx.

Creolin, gtt. x.

Aquae, fl. drachm vij.

Sig. Use pure as an urethral injection.

—*Archives of Gynecology*.

TREATMENT OF A "COLD" BY SALICYLATE OF SODA.

The *Memphis Medical Journal* says of this remedy: Salicylate of sodium in free doses gives as satisfactory results in the treatment of "bad colds" as it does in cutting short tonsillitis. Sodii salicylatis, ʒss; syr. auranti cort., ʒss; aquae. menth. piper., ad. ʒiv. Sig. A dessertspoonful every three or four hours. A dose every three hours until a free specific influence of the salicylate—tinnitus aurium—is observed will so far control the symptoms that the aching of the brow, eyes, nose, etc., will cease. The sneezing and "running from the nose" will also abate and will disappear in a few days, not leaving, as is usual under other treatment, a cough, from the extension of the inflammation to the bronchial tubes.

SOCIETY PROCEEDINGS.

American Academy of Medicine.

Fourteenth Annual Meeting, held in Philadelphia, December 3 and 4, 1890.

WEDNESDAY—MORNING SESSION.

The American Academy of Medicine met at Philadelphia on Wednesday, December 3, 1890, in the hall of the College of Physicians, at 10 o'clock A.M., Dr. S. J. Jones, A.M., LL.D., President, in the Chair. In the absence of Dr. Dunglison, Secretary, from sickness, on the first day, Dr. Charles McIntire, Jr., of Easton, Pa., Assistant Secretary, acted as Secretary. The names of the following applicants for Fellowship were reported as approved by the Council, and were elected as Fellows of the Academy:

New Fellows.—Herman Kiefer, Detroit, Mich.; Grosvenor R. Trowbridge, Danville, Pa.; John Carroll Irish, Lowell, Mass.; Alfred C. Haven, Lake Forest, Ill.; Elmer Lee, Chicago, Ill.; Arthur William Hurd, Buffalo, N. Y.; Edgar D. Wing, Galesburg, Ill.; Walter Davidson Bidwell, Leavenworth, Kan.; Bennet Jason Bristol, Webster Groves, Mo.; Adolf Alt, St. Louis, Mo.; Chas. B. Mayberry, Danville, Pa.; Benj. J. Milliken, Cleveland, O.; Edwin J. Gardiner, Chicago, Ill.; James Aubrey Lippincott, Pittsburg, Pa.; W. Hubert Dunlap, Syracuse, N. Y.; Wm. H. Browning, Brooklyn, N. Y.; Nathaniel S. Cheeseman, Scotia, N. Y.; Charles R. Whitcombe, Boston, Mass.; J. J. B. Vermeyne, New Bedford, Mass.; George Eben Thompson, Boston, Mass.; Henry W. Cattell, Philadelphia, Pa.; Leonidas Lemay Mial, Morris Plains, N. J.; George Fales Baker, Philadelphia, Pa.; William H. Hawkes, Washington, D. C.; E. Baldwin Gleason, Philadelphia, Pa.; Edward Southworth Fitz, South Seaville, N. J.; Hans H. Sinne, Trenton, N. J.; Henry Smith Noble, Middletown, Conn.; Peter N. K. Schwenk, Philadelphia, Pa.; Walter Temple Goodale, Saco, Me.; Archibald McLaren, St. Paul, Minn.; Reynold Webb Wilcox, 690 Madison Ave., New York, N. Y.; William James Herdman, Ann Arbor, Mich.; Charles Sumner Musser, Aaronsburgh, Pa.; William Flynn, Marion, Ind.; George Mason Fosket, North Dana, Mass.; J. M. Maurer, Shamokin, Pa.; Charles Wetherill Gumbes, Oakes, Pa.; Nathaniel B. Emerson, Honolulu, Hawaiian Island; John Van Dusen, Syracuse, N. Y.; Niles Harrison Shearer, York, Pa.; Earnest Laplace, Philadelphia, Pa.; Titus Munson Coan, New York, N. Y.; Levi Ives Shoemaker, Wilkesbarre, Pa.; Woods Hutchinson, Des Moines, Iowa; William Norris Hubbard, New York, N. Y.; William Edward Conroy, Saginaw, Mich.; Ferdinand J. S. Gorgas, Baltimore, Md.; Reginald Hall Sayre, New York, N. Y.; Arthur R. Simmons, Utica, N. Y.; Hermon G. Matzinger, Buffalo, N. Y.; Johann Flintermann, Detroit, Mich.; Sylvanus Todd Lowry, San Antonio, Tex.; Daniel Lewis, New York, N. Y.; Arthur Prince, Jacksonville, Ill.; Frank Eugene Sleeper, Sabatis, Me.; Sherman Willard Boons, Presque Isle, Me.; John H. Moore, Bridgeton, N. J.

At the meeting in Chicago in 1889, an amendment to the constitution was adopted, which admits others than the possessors of the A.B. degree as Fellows, provided they furnish evidence of preliminary education equivalent to that necessary for obtaining the degree of Bachelor of Arts.

DR. MCINTIRE read a paper on *The Value of the A.B. Degree*, which showed a marked differ-

ence in the various colleges in this country in the requirements for that degree, and in the value, therefore, which it possesses as an index of the amount of educational discipline the individual is supposed to have received. This subject will be still further investigated by Dr. McIntire. An appropriation was made by the Academy for this purpose, and the paper was, on motion of Dr. Gihon, ordered to be printed as a preliminary report on the subject, and distributed to every college and medical journal.

A communication was read from Dr. Dunglison, Secretary and Treasurer of the Academy, declining re-election to those positions, on account of other important duties and positions requiring his attention.

THE PRESIDENT appointed as the Committee on Nominations Drs. A. L. Gihon, Leartus Connor, and Benjamin Lee.

DR. CONNOR proposed to amend the Constitution, Art. 3, Sec. 4, by omitting the clause "shall have had an experience of three years in the practice of medicine in one or more of its recognized departments." Thus amended, Section 4 would read, "The Fellows shall have a good moral and professional character."

DR. J. CHESTON MORRIS proposed an amendment to Article VII, "Revenue," to require annual dues of three dollars from every Fellow.

DR. JUSTIN E. EMERSON, of Detroit, chairman of the Committee on Eligible Fellows, presented his report. The action of the Academy, at the previous annual meeting, in admitting to Fellowship those who could present evidences of preliminary education equivalent to that required for the A.B. degree, gave this Committee the additional labor of discovering who were eligible, as the Committee on the Value of the Academic Degree was to report at this meeting of the Academy. The Committee on Eligible Fellows reported the nature of the labor undertaken by them and the methods adopted to obtain the names of medical men who possessed literary degrees, and to secure the coöperation of the Fellows of the Academy as to their endorsement, etc. Suggestions were made as to the best methods of carrying out the Committee's work in the coming year. The personal aid of every Fellow of the Academy in obtaining the names of eligible Fellows and recommending them to the Academy was solicited. An appropriation was made for the use of this Committee.

AFTERNOON SESSION.

When the Academy again convened at 3 o'clock P.M., Dr. Gihon, U. S. N., chairman of Committee on Publication of the Transactions, reported adversely, deeming it advisable that the Academy should rather issue a volume of important papers that had been read at various meetings strictly germane to its objects, than a volume of Transac-

tions to include all the papers of recent date only. The Committee was instructed to present a table of contents of such a volume at the next meeting.

DR. TRAILL GREEN, of Easton, Pa., read a paper entitled *The Profession's Call for a Better Preliminary Education of its Members*, which was directly in the line of the Academy's aim and work, citing illustrations, from the results of examinations by State Boards of Examiners for license to practice, making apparent great deficiencies in many thus examined.

A paper by DR. FREDERIC H. GERRISH, of Portland, Me., was read, in his absence, by the Secretary, entitled:

TITHING-MEN WANTED,

in which he referred to the custom, in olden times in New England, of annually electing certain officers, who were called tithing-men, a principal part of whose duties was to wake up the sleepers in the congregation during Divine service. With a long wand they would tap the slumberers on the head, or poke them in some easily accessible and sensitive part of the person, thus recalling the drowsy to a sense of their ghostly obligations, and keeping them in the path of salvation. He thought the President and Secretary of the Academy should be impressed with the importance of stirring up the sleepy-heads to the important objects of the Academy, in whose work they should take an active interest, that its mission might be better understood by the profession at large, and its work rendered more effectual.

THE PRESIDENT, DR. S. J. JONES, of Chicago, then delivered his Address (See page 1), which was full of important suggestions looking to the future prosperity of the Academy. The address was referred to the Council, who subsequently reported favorably to the Academy as to the matters contained in it. If carried out by the Fellows they would give increased importance and influence to the work of the Academy. The interesting discussion that followed the reading of this address showed a marked appreciation by the Fellows present of its admirable suggestions.

DR. EDWARD JACKSON, of Philadelphia, read a paper entitled

WHAT CAN BE DONE TO SAVE THE EYES DURING SCHOOL LIFE.

He stated that myopia is always a defect, almost always a concomitant and symptom of serious organic intra-ocular disease, that under unfavorable conditions it generally tends, *pari passu* with its accompanying diseases, to become progressively worse, and that these unfavorable conditions are, as things now go, more constantly furnished in school life than under any other conditions. The paper discussed the various means available to prevent the occurrence of this morbid condition, such as correction of the modes of lighting, as to location and planning of the school-

house and its seats, its methods of artificial light; the recognition and proper correction of ametropia; the confinement of the work attempted within the limits of the visual apparatus; the care of general health and nutrition, etc. Particular stress was laid on the necessity of continuous, intelligent supervision of children during school life to avoid the morbid condition referred to, and especially to the necessity of providing for the education of those whose capacity for eye-work falls temporarily or permanently below a fair general minimum.

In the evening the annual collation took place at Boldt's Restaurant, and was participated in by a large number of the Fellows. It was a novelty to have this entertainment in the eighth story, but, as remarked by one of the Fellows, it was one of the specified objects of the Academy to *elevate* the profession.

THURSDAY—MORNING SESSION.

The Academy reconvened on Thursday at 10 o'clock, and selected Washington as the next place of the annual meeting, and May 2 as the time. After electing Fellows, and receiving the Treasurer's report, and its approval by an auditing Committee, reports of committees were next in order.

DR. DUNGLISON, Secretary of the Academy, read his

ANNUAL REPORT ON LAWS REGULATING THE PRACTICE OF MEDICINE IN THE UNITED STATES AND CANADA.

After some interesting preliminary remarks on the subject, in which he quoted a number of absurd replies to questions as elicited from the experience of Boards of Medical Examiners in the various States, he read extracts from letters received by him from gentlemen directly interested in the working of these laws in all parts of the country.¹

Dr. Dunglison, Committee on Preparation of the Catalogue of Fellows and Honorary Members of the Academy, reported that circulars had been sent out since the last annual meeting, prepared exactly in accordance with the plan adopted by the Academy at the annual meeting in 1888, upon the suggestion of President F. H. Gerrish, in his annual address; and that a large amount of information had been collected. The pecuniary condition of the treasury had not, however, allowed of its publication, other important committee work of the Academy, looking to an increase of its numerical strength and to an investigation of the value of the academical degree in different literary colleges, having received the first consideration in expenditures by the Treasurer.

DR. J. CHESTON MORRIS read a paper on *Interference of Molecular Vibrations as Explanatory of*

¹ This Report will be published in full in THE JOURNAL at an early date.

the *Phenomena of Zymotic Diseases and Diseases of Nutrition*, which was of a very scientific character, and was so discussed by the Fellows, as to show the interest it elicited.

DR. GIBON proposed an amendment to Article IV of the constitution, which specifies that officers of the Academy shall be elected from those who are in attendance; the words "in attendance" to be omitted.

The Committee on Nominations made their report, which was adopted, the Secretary being instructed to cast the ballot for the election of the officers named.

OFFICERS.

President—Theophilus Parvin, A.M., M.D., LL.D., Philadelphia, Pa. Vice-Presidents—Henry M. Hurd, A.M., M.D., Baltimore, Md.; Alonzo Garcelon, A.M., M.D., Lewiston, Me.; Robert Lowry Sibbett, A.M., M.D., Carlisle, Pa.; Richard J. Dunglison, A.M., M.D., Philadelphia, Pa. Secretary—Charles McIntire, Jr., A.M., M.D., Easton, Pa. Assistant Secretary—Edgar M. Green, A.M., M.D., Easton, Pa. Treasurer—J. Cheston Morris, A.M., M.D., Philadelphia, Pa.

DR. HENRY E. DWIGHT, of Philadelphia, read a paper entitled *The Influence of the German Universities upon our Profession*, in which, after defining the characteristics of a University, he alluded to the peculiar features which distinguished the Universities of Germany. Much valuable information was given as to the Gymnasias, the Real Schools, etc., and deductions were made as to the influence throughout the world of the teachings and scientific knowledge imparted.

DR. H. M. SELL, of Allentown, Pa., supplemented this paper with some interesting remarks on the five years' curriculum of Norway and Sweden.

DR. BENJAMIN LEE, Secretary of the State Board of Health of Pennsylvania, read a paper entitled,

AN ANALYSIS OF THE STATISTICS OF 41,500 CASES OF EPIDEMIC INFLUENZA.

He referred to the recent invasion of this disease, which beginning in Europe soon visited the United States and prostrated so many thousands of the people. He considered differentially the disease under consideration and dengue, with which many had compared it. The progress of the epidemic in this country was sketched, exhibiting its universality, and the writer then outlined the nature of the work undertaken by the health authorities of Pennsylvania to secure accurate statistical accounts of the epidemic. This interesting paper concluded with the view that the morbid influence spent itself directly upon the nervous system, and more especially upon the pneumo-gastric nerve and its associated ganglia with partial implication of the spinal cord.²

DR. J. CHESTON MORRIS, of Philadelphia, read a paper on

THE PATHOLOGY OF INFLUENZA.

in which he took the ground that influenza or gripe is a paresis or partial paralysis of the pneumo-gastric nerve, depending probably upon such a change in the atmospheric ocean, at the bottom of which we live, as involves an increased expenditure of force in maintaining circulation and respiration. Hence follow the phenomena of cardiac failure and pulmonary congestion which we too often witness: or those of gastro-intestinal trouble, or of the intense neuralgias which supervene in various parts of the body. And as a logical sequence we find the best remedies are strong excito-motor stimulants—chief among these strychnine, caffeine, alcohol and ammonia. Since he adopted the above views and treated his patients with five to ten drops of tincture of nux vomica every three or four hours, he has often been surprised at the promptness with which they have rallied, and the almost unfailing success of the method. He continued the treatment for two or three weeks, then gradually abated it, or resumed it in case of relapse. He would strongly urge its adoption by his fellow practitioners, even in extreme cases, or in those of patients evidently depressed below the *par* of vital activity without well defined symptoms.

AFTERNOON SESSION.

At the afternoon session the Academy adopted the suggestions of the President's Address, all of which had been approved by the Council, that the Fellows of the Academy, in their own States, should take the initiative in

1. Continuous effort in securing liberal preliminary education.
2. Requirement of a high standard of medical attainments.
3. State control of the practice of medicine, by granting licenses to practice based on uniform examinations and disregarding diplomas issued by medical colleges.

Dr. Perry H. Millard, of Minnesota, was elected an honorary member of the Academy.

DR. DUNGLISON, Secretary, read, in the absence of its author, Dr. H. O. Marcy, of Boston, Mass., a paper entitled

THE CORONER SYSTEM IN THE UNITED STATES,

in which he examined the laws in force in Massachusetts and other States of the Union, and in foreign countries, bearing upon the duties of the coroner and his relations to the public service. He arrived at the following conclusions or suggestions:

1. To abolish the office of coroner.
2. To dispense with jury service.
3. To separate the medical from the legal

² This paper will appear in full in THE JOURNAL at an early date.

³ This paper will appear in full in THE JOURNAL.

duties in all cases involving the examination into the causes of death where crime is suspected.

4. To entrust the medical examination only to competent medical officers properly trained in their work.

5. To make the number of these medical officers as small as consistent with the proper discharge of their duties.

6. To consign all questions of law only to properly qualified legal magistrates.

7. To remove the appointment of these officers entirely from the question of political consideration; and to be based only upon their possession of the requisite and proper qualifications.

Upon some basis of this character he thought the coroner's laws should be revised, the result being that much useless expenditure of time and money would be avoided, great sorrow and anxiety prevented, and the ends of justice better served.

THE PRESIDENT-ELECT, Dr. Parvin, was then introduced by Drs. Steiner and Sibbet, who were appointed by the president for that purpose, and delivered brief and eloquent remarks on taking the chair.

Dr. J. E. Emerson, of Detroit, and Dr. J. Taber Johnson, of Washington, D. C., were appointed additional members of Council for the ensuing year. Dr. Emerson was also appointed Chairman of the Committee on Eligible Fellows; the other members of that committee to be appointed later.

Dr. Dunglison was, on motion, appointed to continue the series of Reports on Laws Regulating the Practice of Medicine, which as Secretary he had annually presented to the Academy.

The report on *Requirements for Preliminary Education in Medical Colleges*, by Dr. John H. Rauch, of the Illinois State Board of Health, was read by title, not being received in time for the meeting, but will, on motion, constitute a part of the proceedings.

On motion of Dr. J. Cheston Morris, the thanks of the Academy were tendered the retiring Secretary and Treasurer, Dr. Dunglison, for his long and faithful services to the Academy, through a series of years, and to the cause of education. The retiring President, Dr. Jones, stated that he cordially endorsed and seconded the resolution.

The Academy, after thanking the retiring president, the resident Fellows, and the press of Philadelphia for their excellent reports of the meeting, then adjourned.

THE sale of poisons in Japan is regulated by a series of new and stringent regulations. No poison can be sold for industrial purposes without any order from a professional man, stating the purpose for which it is required and the name and address of the person who gives the order.

New York Academy of Medicine.

SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, November 21, 1890.

V. P. GIBNEY, M.D., CHAIRMAN.

DR. BEELY'S APPARATUS FOR MEASURING THE THORAX.

DR. N. M. SHAFFER exhibited one of these instruments which had been presented to him while he was in Berlin, by the inventor, Dr. Beely. A somewhat similar apparatus had been called by Dr. Nebel, a kirtograph. The apparatus consists of a series of narrow parallel steel bars, placed closely together, and sliding in a rectangular metal frame. Each bar terminates in a blunt point, near the end of which, on the under surface, is a metallic point or stylus. This arrangement of bars looks not unlike a huge comb. On bringing the pointed ends against the chest, or any similar object having an irregular outline, the bars adjust themselves in the frame, so that the pointed ends form an outline identical with that of the object against which they were placed. A simple cam movement then clamps them in this position. The instrument is next laid upon a piece of paper resting on a sheet of felt, and the points on the under surfaces of the bars are made to puncture the paper by passing a small roller over all the bars successively. In this way, the desired outline is recorded on paper as a series of small punctures, about one-fifth of an inch apart. When taking a tracing from a patient while standing, an erect position is secured by means of a plumb-line fastened to a belt, which is buckled around the body. In order to secure still greater accuracy, the instrument is provided with a spirit-level. The exact level at which this transverse tracing of the chest is taken, may be marked with nitrate of silver, so that tracings taken at different times may be readily compared. With the patient in the prone position, the instrument may be used; but a longitudinal tracing, as of the spinal column, with the patient erect, is not within the contemplated scope of the instrument. Dr. Shaffer said that he had made several tracings with this instrument, and he had been very favorably impressed with its action and accuracy.

DR. JOHN RIDLON said that he had seen Dr. Beely using it with the patient in the prone position, and that he had understood that its action was only satisfactory when employed in this way. At the Berlin Congress, Dr. Nebel had exhibited a much cheaper, but less accurately made instrument, constructed on the same principle. A series of round rods were placed parallel to each other, and made to slide through a large round bar. The small bars terminated in buttons, which were applied to the chest. The outline was then transferred to paper by laying the machine on the paper, and passing a pencil along the buttons.

DR. A. B. JUDSON admired the mechanical features of the instrument, but thought that such tracings of cases of lateral curvature were of little value in view of the fact that the changes in contour occurred from day to day as a result of differences in the general tone of the patient.

A CASE OF SUPPOSED EVACUATION OF A PSOAS OR LUMBAR ABSCESS THROUGH THE VAGINA.

DR. SAMUEL KETCH presented such a case. A child, 5 $\frac{3}{4}$ years of age, of healthy parentage, and having a good family history, was admitted to the hospital on October 22, 1890, with the history of a fall six or eight weeks prior to her admission. Two weeks before she was presented for examination, she was first noticed to walk peculiarly, and she complained of "pain in her feet." She was thought to be suffering from hip-joint disease by her attending physician. At the time of the examination, her general condition was fair, and there was no pain, and the motions of the hip-joint were normal, with the exception of a slight limitation of extension on the right side, when the patient was in the prone position. Close examination revealed a small kyphos in the lower lumbar region; the right hip was prominent and relatively larger, and there was a feeling of fluctuation on that side. There was a discharge of pus from the vagina. The case was of interest, both on account of the unusual mode of evacuation of the pus, and because of the symptoms which had led to the diagnosis of hip-joint disease.

DR. SHAFFER had seen the case just reported. He had met with cases where the abscesses of Pott's disease opened into the rectum, vagina, and bladder; and in one case of disease in the dorso-lumbar region, which had extended over a period of about twenty years, pus was discharged from the bladder at intervals of a few months, accompanied by the usual symptoms of acute abscess formation. The cases in which the abscess had opened in these unusual situations had all done well, and he attributed this to the valvular opening through which the pus was discharged. In one of his cases, an abscess was found pointing into the rectum, and was purposely evacuated at this point by means of a trocar. The result had been extremely satisfactory. A similarly favorable prognosis could not be given where abscesses ruptured into the lungs. He had seen several of these cases, and in one, now under observation, which he considered unique, a boy with mid-dorsal disease suffered at intervals from fever, accompanied by the expectoration of pieces of the cancellous portion of bone.

DR. R. H. SAYRE said that anatomical considerations would lead one to expect that, owing to better drainage, abscesses opening into the alimentary canal would pursue a more favorable course than those which ruptured into the lung. He recalled a case where an abscess, situated on

each side of the vertebræ, suddenly enlarged, and caused fatal asphyxia. The autopsy showed that a "saddle bag" abscess was situated at the bifurcation of the trachea.

DR. J. K. YOUNG, of Philadelphia, said that he had recently seen a case of lumbar Pott's disease, in which the abscess had been evacuated through the vagina, and also through the abdominal walls. It had pursued a favorable course.

DR. THOMAS H. MANLEY had once treated a case of abscess in the mid-dorsal region, where evacuation had occurred through the umbilicus. It made a good recovery.

DR. AGRAMONTÉ suggested that the exact condition present in Dr. Ketch's case could not be affirmed until the vaginal discharge had been examined for gonococci.

The Chairman thought that such an examination was highly important, and suggested that search should also be made for the opening through which the pus was discharged.

DR. KETCH, in closing the discussion, said that he was aware that the report of the case was somewhat premature, and had only been presented at the request of the Chairman for clinical material. He had not been able as yet to make the examinations suggested; but the rational symptoms, and the clinical history of the case, seemed to warrant the position which he had taken. In an experience of thirteen years at the Orthopaedic Dispensary, he had never before met with such a case, and had only seen one case in private practice, and in this one, Dr. L. A. Sayre had verified the condition. In this case, there was a favorable termination.

DOMESTIC CORRESPONDENCE.

LETTER FROM BALTIMORE.

The Admission of Women to the Johns Hopkins Medical School—The Historical Club—Death of Dr. John R. Quinan—Semi-Annual Meeting of the Medical and Chirurgial Faculty.

You have already been informed by me of the success of the movement inaugurated in this city about the first of last May, for raising a fund of \$100,000 to secure the admission of women into the Johns Hopkins Medical School upon the same terms as men. This cannot but be regarded as marking an epoch in the literary and professional advancement of women. With a courage and an aspiration which was not to be daunted by prejudice or opposition, the managers of the project, stimulated by that determined advocate of educational equality, Miss Mary Garrett, boldly knocked at the door of the most modern and advanced of American colleges, "an institution," in the language of President Stanley Hall, of Clark University, "which in the less than fifteen

years of its existence, has done a work in stimulating other institutions and in advancing the highest standards, which is, as I think all cheerfully admit, beyond comparison in the recent history of higher education in this country." The language used in the correspondence of Mrs. Henry Winter Davis, in transmitting the gift, and that of the Trustees' minute on receiving it, is significant. It is the "most advanced medical education" that is stipulated for, and the previous training must be equivalent to the "preliminary medical course prescribed for men." It is also "understood and declared" that "such preliminary training in all its facts shall be obtained in some other institution of learning devoted in whole or in part to the education of women, or by private tuition." Further, the fund is not to be immediately used, but is to be invested until with additions and interest it reaches the sum of \$500,000, which is deemed "sufficient for the establishment and maintenance of a medical school, worthy of the reputation of this University and fully sufficient as a means of complete medical instruction."

Nothing could illustrate better the high standard contemplated for the coming school, and it will effectually exclude any but a very few select individuals from entrance. The preliminary requirements will be gauged by the preliminary medical course at the University which requires three years to complete, and of which biology, chemistry and physics form the groundwork. This is one of the courses leading to the degree of A.B. At present female students are debarred from entering the Academic department of the University, and hence the minute of the Trustees provides that they shall obtain this part of their training elsewhere or by private tuition. This will add to the difficulties of the candidates, since instruction of such a high order (much higher than ordinary college graduates receive, and including thorough laboratory courses) can be obtained at only two or three institutions in the country. So that, as Professor Osler recently remarked to the writer, the training requisite for the Hopkins' medical degree will really extend over seven years of study of medicine and its cognate branches. Hence, it is evident that the Hopkins' school will hardly enter into competition with the woman's medical colleges now in existence, but will stand more in the relation of a higher school for post-graduate instruction. That this is understood and appreciated by those engaged in the teaching of women is witnessed by the heartiness with which the success of the late movement has been welcomed by those who are connected with the woman's medical colleges now in operation.

We learn from a letter of President Gilman to Mrs. Davis, which appeared in the daily papers, that the advice of the University Trustees

with reference to accepting the \$100,000 on the conditions imposed was a unanimous one. With that consummate tact for which the President is famous he concludes his letter with the remark, that "it would be a noble act, a memorable event in the history of higher education, if the women of this county should complete the endowment which they have so successfully initiated." In another letter from Judge Dobbin, the President of the University Trustees, it is hoped "that the zeal of the women now interested in our behalf will continue unabated until the necessary endowment is obtained. We do not doubt that their influence and example, and the importance and necessity of the work to be accomplished, will bring to their aid our aid men blessed with abundant wealth, whose liberality will complete that permanent endowment of the school which is necessary for its present usefulness and future development."

Encouraged by these words and stimulated by the success of their first attempt, the Baltimore ladies' committee determined to prosecute their work of collecting funds to its completion. Subcommittees were appointed in Washington, Chicago and California with Mrs. President Harrison, Mrs. Potter Palmer and Mrs. Senator Hearst, respectively, at their head. An invitation was extended to the local committees to visit the hospital, and Mrs. Harrison, on their behalf accepted and named November 14, as the day of their visit. On that day a large number of distinguished women assembled at the hospital where they were received by its officers and the Trustees and presented to Mrs. Harrison. They then partook of an elegant lunch and at its close heard brief addresses from Mr. Francis T. King, President of the Hospital Trustees, Dr. Mary Putnam Jacobi, of New York, and Prof. Henry H. Hurd, Superintendent of the institution. All these addresses referred to the character of the proposed school, which they said was to be on a plane beyond anything hitherto attempted here. At their close the guests were escorted through the building and had ample opportunity to see its perfect arrangements and equipments. It is stated that the lot is ready for the buildings as soon as the requisite endowment is secured. It is on the corner directly across the street from the hospital, and is 300 feet square.

As has already been stated in this correspondence provision, was made in Johns Hopkins' will for the medical school in connection with the University, but owing to pecuniary losses and failures of investments, the funds are lacking for carrying out this part of his design. Hence the inauguration of this movement. It is said that numerous contributions, large and small, have been received since the \$100,000 was presented and that the interest is wide-spread and growing. One subscription came from 200 contributors in

Gardiner, Maine, and another of \$2,500 was sent to defray the expense of the collections.

The exercises at the Hospital were concluded in the evening by a reception at Miss Garrett's elegant residence, corner Monument and Cathedral St., which was attended by the distinguished visitors and by the *élite* of the city. By the way, Miss Garrett's great liberality in connection with this movement deserves to be known and appreciated. Recognizing the importance of making the offer to the Trustees at this time, owing to the greater likelihood of its being accepted now than later on, when she saw that the project lagged owing to the doubt in the minds of ladies as to its acceptance, she increased her subscription from \$10,000 to \$18,000, thus completing the sum of \$100,000 which was the minimum amount determined on as presentable to the Trustees. The Trustees of the Woman's Medical College of Baltimore have had occasion to experience Miss Garrett's interest and liberality in less degree on several occasions. Besides donations to their institution, which were most opportune, it was to her that the senior class of the institution have owed the enjoyment of equal privileges in the clinical advantages of the Lying-in Hospital of the University of Maryland with the undergraduates of that school.

The writer had the pleasure of attending the inaugural meeting, at the Johns Hopkins Hospital on November 10, of the "Historical Club," an association which meets monthly, and whose object is to stimulate an interest in the subject of the history of medicine and medical literature. Prof. Welch is the President, and the following papers have been presented. By Prof. Welch: 1. Introductory Remarks concerning the Study of the History of Medicine. 2. Writers and Books on the History of Medicine. By Prof. Osler: American Medical Classics. 1. A Discourse upon the Institution of Medical Schools in America, by John Morgan, Philadelphia, 1765; 2. Introductory to the Course of Clinical Instruction at the Pennsylvania Hospital, by Thomas Bond. By Prof. Kelly: Notes upon Early Gynecological Works. By Dr. John N. Mackenzie: Some Points in the Ancient History of Rhinoscopy. By Dr. Finney: Sketch of John Archer, M.B., the first Graduate in Medicine in the United States. The two meetings were well attended and the proceedings highly interesting.

I learn that the Pathological and Bacteriological Department, under Prof. Welch, is so crowded that additional accommodations have had to be provided for those attending it. Bacteriology is especially popular, nearly forty students or physicians engaged in special research, being enrolled in that division. Dr. A. C. Abbott has been sent to Berlin as the representative of the Hospital, to investigate Koch's late discoveries.

Weekly clinics are now held at the Hospital by

Professors Osler, Halstead and Kelly, to which the physicians of Baltimore and Maryland are "cordially invited." At Dr. Osler's last clinic an interesting case was presented. It was one of dysentery in which the *ameba coli* was found in both stools and sputa. This was considered to justify the diagnosis of abscess of the liver, although there were no local signs of that affection.

Dr. John R. Quinan, a well-known physician of this city, died suddenly November 11 of apoplexy. He was an ex-President of the Medical and Chirurgical Faculty of Maryland, and a local antiquarian of some note. His most important work was "The Medical Annals of Baltimore from 1608 to 1880," prepared by direction of the State Society as a memorial of the League's Centennial Anniversary of the founding of Baltimore. It is a storehouse of information relating to the profession of this State, but owing to enforced haste of publication, it abounds with errors which detract much from its value and from the credit due the author, who devoted a large amount of time and labor to its preparation.

The Medical and Chirurgical Faculty held an interesting semi-annual meeting at Cambridge, on the Eastern Shore of Maryland, on November 11 and 12. A large number of members went down on the boat from this city, but I understand the attendance and participation of the local profession was not large or encouraging. The programme was a varied and interesting one, embracing papers by Drs. Atkinson, Michael, Mackenzie, Ashby, Winslow, Earle, Merrick, Brinton, Gardner, Harlan, Preston, Woods, Chunn, Chambers, Rohé and Canfield. Under the energetic Presidency of Dr. Thos. A. Ashby the old society is showing signs of redoubled vigor; there have been large accessions lately to its membership, and several thousand dollars have been contributed towards a medical building.

We are at last to have a morgue. The City Council has appropriated \$4,000 and a site has been selected near the harbor. The building will be 18 x 40 feet and two stories high. We have long been sadly in need of such an institution.

E. F. C.

SPECIAL CORRESPONDENCE.

"The Wisdom of Koch."

To the Editor:—It seems to me that THE JOURNAL, as the official mouth-piece of the largest, and oldest, large organized body of physicians in America, should be more conservative in its utterances than appears in the current number editorially under the above caption.

In the first place, there is an objection to extravagant praise of Prof. Koch in connection with his new treatment of lupus and tuberculosis, be-

cause, as he himself admits, its value is so far an unknown quantity. The profession has in the past properly refused, and should now and in the future refuse, to endorse any method which has not had the test of time, and in numerous hands. Prof. Koch has made wonderful and valuable contributions to scientific medicine, but in this new field of endeavor, the logical outgrowth of his pathological discoveries, we must not, simply on the basis of his success in pathological research, follow him blindly. When a case of tuberculosis treated by his method, after the lapse of one year, remains well, there will be time enough to prepare the laurel crown.

In the second place, there is an objection to extravagant praise of Dr. Koch in this connection, because, disguise it as we may, it still remains disagreeably patent that the failure to tell now what the medicament is and how it is made, when apparently sufficient data have been collected to warrant its use upon the human subject, and *the acceptance of a fee therefor*, smacks too much of quackery. In plain terms, it is vaunting, using and selling a secret nostrum.

So long as Prof. Koch confined himself to experimental use of his new remedy upon the lower animals, or to a limited and reasonable degree, upon the human subject, *without fee*, no one would dispute his moral and legal right to keep his knowledge to himself. But when once a *fee has been accepted* for the service, and a willingness expressed to serve others on the same terms, the experimental plea must be abandoned. And in the light of rumors of extortion, and charges by those always uncharitable to medical men, that nothing will be revealed until the few interested have made fortunes, further silence not only gives rise to further suspicion of Prof. Koch's professional honesty, but casts, by inference, discredit upon the medical profession at large.

Finally, there is an objection to extravagant praise of Prof. Koch in this connection, because, outside of the question of value and outside of the suggestion of quackery, this praise gives an undesirable boom to empiricism in medicine. Only a few days ago it was estimated that two thousand physicians had already come from foreign parts to Berlin to observe Prof. Koch's treatment, and by to-day's paper I see that in spite of the poor satisfaction experienced by those already there, the list of daily arrivals shows no decrease. Think of it! Thousands of physicians—Germans, Austrians, Italians, Russians, English and Americans (and possibly those of other nations), flocking to Berlin to see Prof. Koch's treatment, scrambling for places, and offering fabulous prices for a few drops of the liquid whose composition they do not know and cannot find out! And when asked why they want it, reply, "Because *Koch thinks* it will cure tuberculosis!" When has the practice of medicine witnessed such a spectacle? And THE JOUR-

NAL's praise of Koch's wisdom is helping to swell this crowd!

Hitherto the great fault of American physicians in the eyes of our European brethren has been this very thing—*empiricism*. In fact, we have been charged with having a monopoly of it. Now, of course, by this concourse of all nations in Berlin, we know that this charge is false, and I submit it to you—would it not be better, in view of all this, for THE JOURNAL, instead of encouraging, to caution its supporters? commending to their careful consideration the refusal of the French customs officer to allow the passage of the remedy sent to M. Pasteur, because the Government of his country (an excellent law) prohibited the admission of such things without a declaration of their composition.

By all means let us leave the further cultivation of empiricism to our German and English brethren, now that it has sprouted so vigorously among them.

H. B. YOUNG, M.D.

Burlington, Ia., November 29, 1890.

Euphorbia Pilulifera for Asthma.

To the Editor:—Quite recently, at the suggestion of my friend Dr. E. T. Sabal, of Jacksonville, Florida, I have used the remedy above named, *euphorbia pilulifera*, for the relief of a most stubborn case of hereditary asthma, and the results are such that I feel warranted in calling the attention of the profession to it, and also making an effort to compile some statistics which will be of service to us in the future. It is a popular domestic remedy in Australia, where it is found as a common roadside weed, and has been used for the relief of coughs, colds and other like disturbances of the air-passages, but more especially in the treatment of asthma. Dr. Sabal advised me that he had used it in a number of very marked cases which had resisted the usual treatment in Florida, and he thought it might prove equally valuable in our northern climate. The only case in which I have employed it this far, is one which is developed apparently from an ordinary cold, and has proven most intractable during foggy weather, or when the relative humidity was great. Heretofore, under the treatment of other physicians, in this country and in England, and Australia, the attacks would last from one to three weeks, and even then he would require the liberal use of hypodermatics of morphine and atropine. In the course of twenty-four hours after the first symptoms appeared, the malady would be fully developed, and the patient, a young man, would be compelled to sit up until the disease had exhausted itself. With the exception of myself, all his previous attendants had used ipecac freely, and he had come to dread the attacks on account of the nausea produced by the treatment. By the cautious employment of

atropine, morphine, and nitroglycerine, and the liberal use of oxygen gas, I had succeeded in lessening the severity and shortening the period to less than a week, but the results were much less satisfactory than when euphoria was used, together with the above described combination subcutaneously. For hypodermatic use the following was employed:

R—Morphinæ sulphas. gr. 1-4.

Atropinæ sulphas. gr. 1-150.

Trinitrin, grt. 1. ℥

Sig. For subcutaneous use; for one dose.

The formula adapted for the exhibition of euphoria as follows:

R—Ext. euphorbiæ pilulifera (P. D. & Co's.).

Glycerini, āā fl. oz. ij. ℥

Sig. Take one teaspoonful every three hours.

If those who have had experience with this remedy will kindly communicate the results of their observations to me, I will be glad to give them credit in the form of a collective report.

JOHN AULDE, M.D.

1910 Arch street, Philadelphia, Dec. 12, 1890.

A Correction.

To the Editor:—In the issue of THE JOURNAL containing the report of the Mississippi Valley Medical Association meeting at Louisville, referring to my paper upon "Certainty in the Diagnosis of Tuberculosis" I am quoted as saying: "The disease is void of the slightest tendency to self-limitation." This I certainly did not say, nor did Dr. Porter, of St. Louis, in his interesting paper published in the same number of THE JOURNAL, take any such extreme grounds. He called in question Flint's doctrine of self-limitation, restricting the skepticism to cases which had advanced so far that the presence of disease could be established by physical signs. It was upon a series of such cases that Flint's teaching was based. Owing to pressure of time neither Dr. Porter's paper nor mine was discussed, but in conversation with him afterward he clearly explained his position, and I think I am correct in stating it. Tuberculosis, advanced to the production of distinct subjective and objective signs is one thing; the incipient local disease, which, in many cases at least, can now be detected by skilful application of the bacteriological test, is clinically quite another. So far as experiments upon animals can throw light upon the question, there is good reason to believe in the self-limitation, and I would not like to go on record with such a sweeping statement as that quoted. I wrote as follows: "Tuberculosis is a disease which, once well under headway, is not in any marked degree, as compared with other infections, self-limited. Self-limitation is an uncertain staff upon which to lean. We can not deserve the name of workers, nor really win battles nor advance to higher fields, nor even pre-

serve our self respect, by supinely resting upon such support and awaiting a possible victory."

Respectfully, THEODORE POTTER, M.D.

Indianapolis, Ind.

Shall The Journal be Removed to Washington?

To the Editor:—Please place my vote on the list, as in favor of THE JOURNAL remaining at Chicago.

Q. C. SMITH, M.D.

Austin, Tex., December 23, 1890.

To the Editor:—About the removal of THE JOURNAL and building a house of our own; I think it advisable to do so, and would suggest Louisville, which is neither an Eastern, Western, Northern or Southern city, but truly a central one.

J. W. DAVIS, M.D.

Smyrna, Tenn., December 23, 1890.

To the Editor:—The writer's subscription (as have those for every former one) for Vol. xv of THE JOURNAL will soon be forthcoming, and for the fact above he would regret a break in the file. To the ordinary observer the proposition to remove THE JOURNAL to the Capital or elsewhere must have in its favor some occult reason or grounds, so palpable and strong are the objections. In all forms of journalism the argument for a central place of publication is vital, but in the special case of THE JOURNAL, it is tenfold stronger. The word "Association" gives the key to this statement. Surely reasons, at the present sufficient, and daily augmenting—not to mention success—would induce the common mind to think and say "THE JOURNAL is exactly where it should be." Yours truly,

H. C. MARKHAM, M.D.

Independence, Iowa, Dec. 27, 1890.

MISCELLANY.

THE MATTISON PRIZE.—With the object of advancing scientific study and settling a now mooted question, Dr. J. B. Mattison, of Brooklyn, offers a prize of \$500 for the best paper on "Opium Addiction as Related to Renal Disease," based upon these queries:

Will the habitual use of opium, in any form, produce organic renal disease?

If so, what lesion is most likely?

What is the rationale?

The contest is to be open for two years from Dec. 1, 1890, to either sex, and to any school or language. The prize paper is to belong to the American Association for the Cure of Inebriety, and to be published in a New York medical journal, *Brooklyn Medical Journal*, and *Journal of Inebriety*. Other papers presented are to be published in some leading medical journal, as their authors may select. All papers are to be in possession of the Chairman of Award Committee, on, or before January 1, 1893.

The Committee of Award will consist of Dr. Alfred L. Loomis, President N. Y. Acad. of Medicine, Chairman; Drs. H. F. Formad, Phila.; Ezra H. Wilson, Brooklyn; Geo. F. Shraley, and Jos. H. Raymond, editor *Brooklyn Medical Journal*.

GOLDEN BELT DISTRICT MEDICAL SOCIETY.—The winter meeting of the Golden Belt District Medical Society will be held in Salina, Kan., Jan. 8, 1891, for the mutual benefit and entertainment of the profession. A general invitation to members of the profession is cordially extended to be present. The following papers will be read: "Report of a few cases of Complete Perineal Lacerations," by W. S. Harvey, M.D., Salina; "Laxatives and Cathartics, and their Application," by J. F. Brewer, M.D., Minneapolis; "Report of a Surgical Case," by P. Daugherty, M.D., Junction City; "The Therapeutic Value of Rest in Affections of the Joints," by A. L. Blesh, M.D., Hope; "The Menopause; its Relation to Disease," by J. W. Felty, M.D., Abilene; "Injuries of the Eye," by G. A. Wall, M.D., Topeka.

THE NEW SURGEON-GENERAL.—Dr. Charles Sutherland has been nominated to the office of Surgeon-General by the President. He entered the Medical Service of the Army in 1852, and is the Ranking Colonel in that department. He served with distinction in the late war and was breveted Lieutenant-Colonel and Colonel for meritorious service. Since 1866 he has held the position of Assistant Medical Purveyor. His eminent ability and his efficient services render his appointment to the highest position in his department eminently befitting, and he will doubtless fulfil the duties of his new position with fidelity to the Government, and with honor to himself.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from December 13, 1890, to December 26, 1890.

Major Charles Smart, Surgeon, is detailed as a delegate to represent the Medical Department of the Army at the annual meeting of the American Public Health Association, to be held at Charleston, S. C., December 16 to 19, 1890. He will proceed to Charleston, accordingly, and upon the final adjournment of the Association, return to his station in this city. By direction of the Secretary of War. Par. 2, S. O. 290, A. G. O., Washington, December 12, 1890.

Capt. William O. Owen, Jr., Asst. Surgeon, now on leave of absence, will report in person, without delay, to Col. Eugene A. Carr, Sixth Cavalry, at Rapid City, S. Dak., for duty with troops in the field, and by letter to the commanding General, Dept. of Dakota. By direction of the Secretary of War. Par. 17, S. O. 291, A. G. O., Washington, December 13, 1890.

Capt. Walter Reed, Asst. Surgeon, now on duty at Baltimore, Md., will report in person, without delay, to the commanding officer, Ft. Keogh, Mont., for temporary duty at that station, and by letter to the commanding General, Dept. of Dakota. By direction of the Secretary of War. S. O. 291, A. G. O., Hdqrs. of the Army, Washington, December 13, 1890.

Capt. William Stephenson, Asst. Surgeon, is granted leave of absence for fourteen days, to take effect on or about December 20, 1890. Par. 18, S. O. 291, A. G. O., December 13, 1890.

Capt. Francis J. Ives, Asst. Surgeon, now on leave of absence, will proceed to Rapid City, S. Dak., and report in person to Col. Eugene A. Carr, Sixth Cavalry, for duty with troops in the field, relieving First Lieut. William B. Banister, Asst. Surgeon, and reporting also by letter to the commanding General, Dept. of Dakota.

By direction of the Secretary of War. Par. 18, S. O. 289, A. G. O., Washington, December 11, 1890.

Major Stevens G. Cowdrey, Surgeon, extension of leave of absence granted in S. O. 263, November 10, 1890, from this office, is further extended ten days on account of sickness. By direction of the Secretary of War. Par. 4, S. O. 293, A. G. O., December 16, 1890.

Capt. Marcus E. Taylor, Asst. Surgeon, par. 17, S. O. 287, December 9, 1890, from this office, relating to him, is so amended as to direct him to report to the commanding officer, Vancouver Bks., Wash., for duty as post surgeon, relieving Col. Barnard D. Irwin, Surgeon, of that duty. Capt. Rudolph G. Ebert, Asst. Surgeon, will be relieved from duty at Vancouver Bks., Wash., upon the arrival of Capt. Taylor, and will then proceed to Ft. Huachuca, A. T., and report in person to the commanding officer of that post for duty. Washington, December 17, 1890.

First Lieut. Thomas U. Raymond, Asst. Surgeon, having been ordered to temporary duty at Vancouver Bks., Wash., by the commanding General, Dept. of the Columbia, is assigned to duty at that post, and relieved from further duty at Ft. Sherman, Idaho. S. O. 294, A. G. O., Washington, December 17, 1890.

Capt. Robert J. Gibson, Asst. Surgeon, now on leave of absence, will report in person, without delay, to the commanding officer, Ft. Meade, S. Dak., for duty with the Seventeenth Infantry in the field, reporting by letter to the commanding General, Dept. of Dakota. By direction of the Secretary of War. Par. 6, S. O. 297, A. G. O., Washington, December 20, 1890.

Capt. John J. Cochran, Asst. Surgeon, is granted leave of absence for six months on surgeon's certificate of disability, with permission to leave the Dept. of Texas. By direction of the Secretary of War. Par. 2, S. O. 298, A. G. O., December 22, 1890.

First Lieut. Freeman V. Walker, Asst. Surgeon, leave of absence granted in S. O. 85, Dept. Platte, November 11, 1890, is extended one month. By direction of the Secretary of War. Par. 9, S. O. 298, A. G. O., December 22, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending December 20, 1890.

Asst. Surgeon Sheldon G. Evans, ordered to Naval Academy, Annapolis, Md.

P. A. Surgeon Corbin J. Decker, detached from Naval Academy, and ordered to Naval Hospital, Philadelphia, Pa.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending December 20, 1890.

Surgeon Walter Wyman, granted leave of absence for twenty days. December 11, 1890. To attend meeting of American Public Health Association. December 12, 1890.

Surgeon W. H. Long, granted leave of absence for seven days. December 20, 1890.

Surgeon R. D. Murray, granted leave of absence for thirty days. December 20, 1890.

Surgeon Fairfax Irwin, detailed for special temporary duty at M.-H. Bureau. December 10, 1890.

P. A. Surgeon H. R. Carter, to attend meeting of American Public Health Association. December 11, 1890.

P. A. Surgeon Eugene Wasdin, to attend meeting of American Public Health Association. December 11, 1890.

P. A. Surgeon J. J. Kinyoun, granted leave of absence for thirty days, with permission to go abroad. December 11, 1890.

Asst. Surgeon H. D. Geddings, upon expiration of leave to proceed to New York, N. Y., for temporary duty. December 18, 1890.

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No 2.

ORIGINAL ARTICLES.

SOME DISPUTED POINTS IN THE CORRECTION OF REFRACTION ERRORS.

Read in the Section of Ophthalmology at the Forty-first Annual Meeting of the American Medical Association, at Nashville, Tenn., May, 1890.

BY B. ALEX. RANDALL, A.M., M.D.,

OPHTHALMIC AND AURAL SURGEON TO THE EPISCOPAL AND CHILDREN'S HOSPITALS, PHILADELPHIA.

In the entire range of ophthalmology there is probably no question as important as that of how to deal with errors of refraction. The sum total of discomfort, disease and impaired vision fairly ascribable to ametropia, is unapproachable by that due to any of the grave disorders to which the eye is subject; and glasses are being prescribed with ever-increasing frequency and by a rapidly widening circle of medical men. Yet it is very unfortunate to note the wide divergence in the views of men who ought to be authorities in such matters; and the acrimonious criticism with which some of them assail the work of others, attacking them even before the laity with a vigor which ill accords with professional, or even common courtesy, and can be justified only by scientific demonstrations, as yet lacking, that the treatment thus condemned is unwise and harmful.

As there are many whose views in this matter are not very definite, I have felt that in placing on record the conclusions that I have reached in ten years of close and conscientious study, I may perhaps aid some in reaching clearer views and more satisfactory results. Without claiming any originality, then, but apologizing to those who may be bored by this retravelling of much-trodden paths, I will touch upon some of the points in dispute.

First, as to the frequency of ametropia. There are probably few now remaining who will uphold the old view that the majority of people are emmetropic. The investigations of the eyes of infants and school-children have proven beyond any reasonable doubt that the young human eye is almost invariably hypermetropic, that astigmatism is extremely common, although not always easily uncovered, and that myopia—the bugbear of our German cousins especially—is almost in-

variably developed during the school age.¹ But from this point wide divergence begins. The rule that has been proven for children, is quite generally held to be inapplicable to adults. It is considered entirely natural that the immature child should present the undeveloped type of eye; but also that he should outgrow it later, as he does many other childish things. The general existence of emmetropia in adult life is claimed upon this *a priori* ground, and has really been but rarely questioned; yet it needs only a rational questioning of the view to show that it is baseless. Hardly one cornea in twenty is free from measurable astigmatism, as the modern bandy ophthalmometers clearly show (Javal, Nordenson, Schiotz, Burnett, *et al*). So, too, as to axial ametropia, the few investigations made among adults, falling far short of the whole truth as they generally do, still show that not one-half could be looked on as emmetropic. Incomplete as the demonstration is, it is quite enough to throw the burden of proof upon those who would maintain the *a priori* view. Thus, it has been demonstrated by Seggel that among the common soldiers in Munich, 40 per cent. of the 3,052 eyes studied had *manifest* hypermetropia, and only 46 per cent. appeared emmetropic; yet these were healthy young adults from among whom all notably abnormal had been excluded by the enlistment examination. Stricter study would have greatly reduced this group of apparent emmetropes, just as Roosa² found among 20 eyes carefully selected as free from manifest hypermetropia only 6 which were actually emmetropic under atropia—the rest revealing hypermetropia of .65 to 1.5 D. In a study of the eyes of medical students, I found with the test glasses, among 142 eyes, 51 apparently emmetropic, 54 myopic, and only 37 with manifest hypermetropia; yet the ophthalmoscope and other methods proved that full 92 were hypermetropic, only 19 myopic, and at most 31 emmetropic.³ Of the 51 eyes which rejected convex glasses and seemed emmetropic, only 16 appeared so by other tests; and the use of a mydriatic would have reduced even this list nearly to the vanishing point. Only

¹ Randall, "The Refraction of the Human Eye," Amer. Jour. Med. Sciences, July, 1888.

² Trans. Am. Oph. Society, 1878.

³ Randall, "Eyes of Medical Students," Trans. Pennsylvania State Med. Soc. 1885.

32, or 18.8 per cent. of the total 180 eyes examined could be regarded as free from ametropia, manifest even to the incomplete investigation.

So, too, the refraction work in our clinics gives a showing of the ametropia that can be robbed of little of its force by the claim that eye patients do not fairly represent the general population. One-third of the work done at the Wills Eye Hospital in Philadelphia among its 10,000 annual patients, is the correction of refraction errors; and the proportion is nearly one-half in the Eye Clinic of the University of Pennsylvania. Let it be shown by competent investigation that any large group of adults presents a considerable proportion of emmetropia, and then only will such facts as these be at all in need of confirmation. If we look at any group of people whose refraction has been measured in order to seek the relation of refraction error to other disease—be it chorea, epilepsy, glaucoma or anything else—we find results that vary only with the method and care of the examiner. Dr. de Schweinitz found, as did Stevens, a high proportion of ametropia among choreic children, but not more than Risley found in 1,200 of the general school population of Philadelphia. In the latter investigation the emmetropes remained practically unvarying in the ages from 6 to 21 years. The study of adults reaches parallel results.

Those who would uphold the assumption of the prevalence of emmetropia, must fall back upon a series of unproven and really untenable explanations of why the facts conflict with their theory. They must exclude all low grades of error as unimportant and physiologically normal—a point which experience in correcting small errors fully disproves. Small grades of ametropia are quite as often the cause of asthenopia as the larger ones; and while far from asserting that the weak glasses of my test case are the most important, I must needs recognize that this neglect of the low grades of refraction error is one of the few points in which Donders' great treatise has been found imperfect. One stronghold remains, but it is difficult to see how anything but blind prejudice can deem it impregnable. It is claimed by some that mydriatics give us a false view of the refractive condition of the eye, that paralysis of the accommodation is accompanied by a fictitious decrease of the refraction, and that the measurements so obtained must be "*discounted*" in order to arrive at the true *static refraction* or condition of entire rest. Merely negative evidence can be adduced in support of this view, and abundant positive evidence to the contrary is readily accessible. The oft-quoted statement of Donders is cited, that "a tone of accommodation" to the extent of .37 to .90 D. is usual and can be relaxed only by accommodative paralysis—a view from which he did not publicly recede, so far as I know. Yet he wrote to me as to this

in 1885: "The difference is slighter than I had supposed and may be neglected for the myopic eye. Another question is whether it depends on the tone of accommodation, which can only be supposed (as existing generally in not-striped muscular tissue), but not proved."

The resting points for this view are the facts that a mydriatic often shows a lower myopia or a higher hypermetropia than is discoverable before or after its use, and that most people complain of blurred distant vision if the full mydriatic correction is given.⁴ Most persons certainly do *at first*, or at least most hypermetropes; but it is exceedingly pertinent to ask why *all* do not, and why myopes are rarely much troubled in this regard. The answer is really self-evident—the myope has generally established no habitual accommodative tension; if it is present in any case, every one recognizes it as an "accommodative cramp," not a "tone." The hypermetrope, on the other hand, has so long maintained his accommodation tense, even in distant vision, that he finds it hard to unlearn the habit when it becomes no longer necessary. What ophthalmoscopist ever found it easy at once to relax all accommodative effort, or even after he has learned to relax, finds it always possible to do so? An eye whose accommodation has long been cramped is apt to return to its cramp when the mydriatic wears off, and will, therefore, see imperfectly at a distance with the totally correcting glass. If such a difficulty lasts more than a fortnight, as it will in a very few cases, it is almost invariably because of muscular insufficiency which has not been corrected. The essential question here to be considered is whether the mydriatic, pushed to total paralysis of the accommodation, invariably gives an untrue picture of the refraction and causes an artificial hypermetropia, as has been claimed. From two points of view this claim can be distinctly disproved. First, the cases are not very rare in which full mydriatic paralysis gives identically the same result as was obtained with active accommodation; and secondly, a large number of cases can be taught fully to relax their accommodation and obtain full vision with a glass totally correcting the defect revealed under the mydriatic. The length of time and the amount of annoying blurring before this is gained vary in different cases; and the question must always present itself to the practitioner, whether the benefits may not be fully gained and the discomfort lessened by giving an under-correcting glass. But this is a question of expediency, not of necessity; and those who habitually give total corrections and insist upon their constant wear, fail in few cases to obtain the desired result.

In the appended table of cases will be found, first, a group where the refraction was unchanged

⁴ As Dr. Jackson has pointed out, full correction for 5 metres is really 0.2 D over-correction for distance, a point usually forgotten.

by the mydriatic; second, those who obtained full vision with totally correcting glasses; and third, a series to show how far astray the manifest error was from the true refraction. Of the first class of these cases, where the refraction was the same before and with the mydriatic, I have few accessible records, and I cannot, like Roosa, cite 6 eyes out of 20 which remained absolutely emmetropic under atropine. Yet every one who has put this matter to a fair test has met such cases, not only in middle life, but even in childhood. In the school examinations, Cohn reports 34 cases whose manifest hypermetropia was absolutely unchanged by total atropine mydriasis; and Dürr obtained like results under homatropine. Such cases, if not common, are not the less emphatic in their teaching. Of those who have received totally correcting glasses and with them have obtained full vision, dozens might be cited, although I have not tested and recorded the ultimate vision in even one-half of those who ceased to complain of blurring for distance, and have chosen only hypermetropes here as illustrations. Of the third group only a few are brought forward, because no one who has ever used a mydriatic can doubt that, in a large proportion of cases, the true result cannot possibly be obtained without it. These are all recent cases from my private record.

And here let me say as to my refraction work, that it is all done under conditions practically identical, with good uniform illumination on the test card, that the mistake of even a single letter in a long line has been signified by a question mark, that the minutest errors and discrepancies have been noted, and that full mydriatic paralysis has not been assumed merely because a mydriatic had been several times instilled, but proven by careful tests both for distance and for near. In the latter case an artificial far-point of 25 cm. has been generally used, and as the test object the finest of type or Burchardt's dots.

While a mydriatic has been habitually employed, it has been always regarded as a disagreeable measure, which should be avoided if possible; and accordingly, among the last 250 cases on my record, I find that there were 175 of refraction error (exclusive of presbyopia), and in 101 of these a mydriatic was used. Of the remainder, there were 53 patients less than 45 years of age to whom no mydriatic was given. This was not always from choice, for there were some of these cases where the mydriatic was advised, and the manifest glass was given only tentatively and under protest. There were also a few cases where I refused to give a glass without full use of a mydriatic, and thereby lost the patient: but these have not been included here. The method of employment has depended upon the mydriatic and the case. With hyoscyamiae sulphate, which I much prefer, a 2-gr. solution has been prescribed, to be instilled one drop in each eye at bedtime

and again on rising, with perhaps another instillation before the measurement. Dark coquilles or a thick veil have been worn to shade the eyes from glare, and the examination generally repeated, with continued instillation, on several days. Retinoscopy with the plane mirror at 4 metres distance, and the ophthalmoscope, have been used as control tests—the former being specially valuable, since with it discrepancies of .25 D. or of 5° in cylinder axis can hardly be overlooked.

As a mydriatic, hyoscyamine is probably unequalled. Chemically identical with duboisine, it yet seems distinctly less inclined to exert the toxic action which too often made the latter drug a treacherous ally; and in a strength of 2 grs. to the ounce it rarely causes any constitutional symptoms. Its action is more prompt and energetic than that of atropia in stronger solutions, and its full action is obtained in about half an hour. Even after a single instillation there is little or no diminution in its effect for about seventy hours, while the troublesome period of returning accommodation is only about two days. Recovery from its effect is as complete in five days as on the tenth day after the use of the atropia, although the grasp of the latter drug begins to waver much earlier, while the hyoscyamine is still in full control. A week can generally be set, therefore, as the time during which near work must be abandoned on its account, while the similar period for atropia is quite two weeks. This is a strong point in its favor, since it is quite trouble enough to disable the patient for the shorter period; but its highest value lies in the unvarying grasp upon the accommodation for about three days after the last instillation, so that the rest which it enforces is generally absolute. As this "putting the accommodation in splints" is one of the special indications for the use of a mydriatic, and one in which the atropia gives at most two days of rest, the superiority of the shorter-lived mydriatic is manifest. No value of this sort attaches to the use of homatropine; but in eyes that are not very irritable, total paralysis can be obtained by several instillations of a 6-gr. solution, and it has much value in its narrow field.

When, with or without a mydriatic, a glass is found which gives the best attainable vision and is confirmed by the retinoscopy and ophthalmoscope, there is room for judgment as to whether it shall be ordered as it stands or be modified to meet some special indication of the case; but there is in few cases anything but disadvantage in waiting until the mydriasis has wholly disappeared before ordering the glass. The accommodation and muscular condition should be determined at the first examination, and furnish, with the history, the only data which legitimately influence the decision as to the glass to be given. Upon one general rule I should like to insist, because

it would seem to be followed by few, and that is that the total correction should be given unmodified, except for clear and definite cause. It is not always wise to give full correction to myopes; but I am persuaded that if our European colleagues would do more of it, with careful correction of astigmatism, they would see far less progressive myopia. As has been said, it is sometimes very difficult to get a hypermetrope to accept the total mydriatic correction; and, in the absence of strabismus or asthenopia, policy may dictate a reduction of the convex spherical by .25 or .5 D. Insufficiency of convergence, especially for distance, generally makes the use of the total correcting glass impossible unless it is combined with a prismatic correction. This latter can often be most satisfactorily obtained by modification of the centring of the lenses. Inattention by oculists and opticians to this matter of precise centring is a prolific source of unsatisfactory results, which very little care could wholly avoid; and the oculist should specify the exact distance between the optical centres, and make a point of verifying the strength and fit of every glass he orders, if possible.

While there is little in the foregoing that can make the least claim to novelty, since most of it has been previously and better said, it contains much, I believe, which is at present accepted and applied in practice by only too small a minority. I beg leave, therefore, in closing, to reiterate the following points and to urge their importance upon all who are doing ophthalmological work:

1. Errors of refraction are present in the great majority of cases, but need correction in only a portion of those who suffer with eye-trouble.

2. In all correction of refraction errors, the manifest refraction is as uncertain a basis as a quicksand, and the *static* refraction is the only true basis on which to work.

3. A mydriatic is often required in order to give the eye a needed rest and to measure correctly the refraction, and it must be used to the extent of total ciliary paralysis to meet this end, as a small remnant of accommodation is sufficient to mask astigmatism as well as hypermetropia.

4. The glass as determined under full mydriatic paralysis measures the true static refraction of the eye.

5. The glass given should accord with the static refraction of the eye, being modified only for good and definite cause.

6. The minutest accuracy is desirable as to the strength and fitting of the glasses, and the width of the optical centres should be exactly prescribed.

7. The balance of the ocular muscles should be strictly studied in every case, since these relations have important bearings upon the ordering of lenses.

8. If these matters have been properly studied when the case is first seen, there is rarely any

need of delaying the ordering of the glasses until the accommodation has returned.

Cases illustrating refraction unchanged by full mydriasis:

1. Miss Kate S., aged 24; Right eye V. = $\frac{6}{6}$ +, no astigmatic lines chosen, near-point for D = .50 13 cm., with + .75 spherical V = $\frac{6}{6}$ +; under homatropine with + .90 or .75 sph. V = $\frac{6}{6}$; Left Eye V = $\frac{6}{6}$ +, with + .65 cylinder axis 180° V = $\frac{6}{6}$ +, under hom. with + .65 cyl. axis 180° .

2. Miss Mary W., aged 24; R. E. $\frac{6}{6}$, with - 10. sph. $\frac{6}{12}$ +, no lines chosen; under hyoscyamine - 10. (with or without - .50 cyl. axis 15°) $\frac{6}{12}$ +; L. E. $\frac{6}{6}$, - 10. sph. $\frac{6}{12}$ +; under the mydriatic - 10. s. (\ominus - .50 cyl. axis 150° ?) $\frac{6}{6}$? Without glass D = .50 5 to 10 cm. each.

3. George B., aged 16, R. E. $\frac{6}{6}$, no lines, D = .50 read from 8 to .25 cm., with - 3.25 sph. $\frac{6}{6}$; under homatropine with - 3.25 $\frac{6}{6}$: L. E. $\frac{6}{6}$, no lines, same accom., with - 4. sph. $\frac{6}{6}$; under hom., - 4. sph. (or - 3.5 s. \ominus - .50 c. axis 180° ?) $\frac{6}{6}$.

Cases illustrating full vision through the totally correcting lens:

1. John W., aged 10; Right Eye V = $\frac{6}{9}$, lines chosen at 180° , near-point 11 cm. for D. .50, eye hypermetropic but vision made worse by any convex glass; under hyoscyamine with + 2.5 sph. \ominus + .90 cyl. axis 90° $\frac{6}{15}$. The left eye gave an identical result, before and after the mydriatic. Six months later he came with the glasses broken and claiming to see better without them; but saw $\frac{6}{15}$ and $\frac{6}{9}$ without, and $\frac{6}{12}$ each with them. A few months later his vision had risen to $\frac{6}{12}$ each through the glass, and accom. was normal.

2. Robert L., aged 17, R. E. $\frac{6}{6}$, lines at 180° , near-point 10 cm., with + 1. s. \ominus + .37 c. axis 90° $\frac{6}{6}$ +; L. E. same vision and accom., with + .90 s. \ominus + .37 c. axis 90° $\frac{6}{6}$ +. Hyoscyamine showed R. + 1.25 s. \ominus + .25 c. 90° $\frac{6}{6}$, and L. + 1.25 s. \ominus + .37 c. 90° $\frac{6}{6}$; and the result has remained unchanged since, although a low grade of exophoria is present.

3. Richard S., aged 33, R. E. $\frac{6}{12}$, lines 170° , near-point 22 cm., with - .50 cyl. 80° $\frac{6}{6}$; under hyosc. + .65 c. 180° gave $\frac{6}{12}$, which became later $\frac{6}{6}$?; L. E. $\frac{6}{6}$ +, with - .50 c. 100° $\frac{6}{6}$; under mydriatic + .25 s. \ominus .50 c. 150° gave $\frac{6}{12}$, later $\frac{6}{6}$.

4. Flora J., aged 13, R. E. $\frac{6}{6}$, no lines, near-point 11 cm., H. m. + .65 s. $\frac{6}{6}$; under hyosc. + .75 s. \ominus + .65 c. 90° gave $\frac{6}{6}$; L. E. $\frac{6}{6}$, no lines, D = 1.50 read at 17 cm., + 2. s. \ominus + 2.5 c. 90° $\frac{6}{6}$?; under hyosc. + 2. s. \ominus + 3. c. 90° gave $\frac{6}{6}$ +. A month later the vision was still $\frac{6}{6}$ + on the right and $\frac{6}{12}$ + on the left.

5. Sadie D., aged 26, R. E. $\frac{6}{12}$, lines 180° , near-point 15 cm., with + 2.5 s. \ominus + .64 c. 90° $\frac{6}{6}$?; under hyosc. + 3.25 s. \ominus + .50 c. 90° $\frac{6}{6}$?; L. E. $\frac{6}{12}$?, same lines and near point, with + 2.5

s. $\odot + .25$ c. $90^\circ \frac{6}{8}?$, under hyosc. $+ 3.25$ s. $\odot + .50$ c. $90^\circ \frac{6}{8}$. As this seemed a slight over-correction $+ 3$ s. $\odot + .50$ c. 90° was given, and with it three months later each eye saw $\frac{6}{8}?$ Agnew had given sphericals $+ 2.75$ and 2.5 several years previously.

6. Miss M., aged 23, R. E. $\frac{6}{12}?$, no lines, near-point 22 cm., H. m. $+ .90$ s. $\frac{6}{12}?$; under hyosc. $+ 1.5$ s. $\odot + .37$ c. $90^\circ \frac{6}{12}?$; L. E. $\frac{6}{8}?$, no lines, same accom., with $+ .90$ s. $\frac{6}{8}?$; under the mydriatic with $+ 1.5$ s. $\odot + .37$ c. $90^\circ \frac{6}{12}?$ $+$. She was still able to read many of $\frac{6}{8}$ with each eye when seen after the mydriatic had disappeared, and has remained comfortable with constant wear of her glass.

7. Mrs. L., aged 34, R. E. $\frac{6}{8}?$, no lines, H. m. $+ .25$, same vision; under hyosc. with $+ .25$ c. $90^\circ \frac{6}{8}?$; later $\frac{6}{8}$ full: L. E. $\frac{6}{8}$, lines 15° , with $+ 3.5$ c. axis $105^\circ \frac{6}{8}$; under mydriatic $+ .5$ s. $\odot + 4.5$ c. axis $100^\circ \frac{6}{8}$; same vision after return of accom.

8. Mrs. W., aged 44, R. E. $\frac{2}{8}$, lines, 150° , with $+ 1$ s. $\odot + .50$ c. axis $60^\circ \frac{6}{8}?$; under hyosc. with $+ 1.5$ s. $\frac{6}{8}?$; later $\frac{6}{8}$: L. E. $\frac{5}{8}$, lines at 30° , with $+ 1.25$ s. $\odot + .50$ c. axis $120^\circ \frac{6}{8}?$; under hyosc. with $+ 1.75$ s. $\odot + .65$ c. axis $90^\circ \frac{6}{12}?$; later $\frac{6}{8}?$.

9. Mrs. H., aged 30, R. E. $\frac{5}{16}?$, improved by no glass, lines 165° , read D = .5 at 15 cm.; under hyosc. with $+ .25$ s. $\odot + 1.5$ c. axis $90^\circ \frac{1}{16}?$ $+$, later $\frac{6}{8}?$: L. E. $\frac{1}{16}$, lines 90° , D = .5 from 30 to 45 cm., with $+ 2$ s. $\frac{6}{12}$; under hyosc. with $+ 3.5$ s. $\frac{6}{8}$, later $\frac{6}{8}$ $+$. The lowered vision was due to hazy and irregular cornea, worse on the right.

10. Mary C., aged 16, R. E. $\frac{6}{8}$, no lines, near-point 12 cm., with $+ .65$ s. $\frac{6}{12}?$; under hyosc. with $+ 1$ s. $\odot + .50$ c. axis $80^\circ \frac{6}{8}$; L. E. $\frac{6}{8}$, no lines, same near-point, with $+ .90$ s. $\frac{6}{12}?$; under mydriatic with $+ .9$ s. $\odot + .65$ c. axis $100^\circ \frac{6}{12}?$. As these seemed slightly over-correcting, $+ .75$ s. was given in combination with the cylinder for each eye; and when last seen the right had V = $\frac{6}{8}$, left $\frac{6}{8}$ full.

Cases illustrating marked differences between the manifest and true refraction.

1. Mrs. C., aged 38, R. E. $\frac{1}{16}?$ $+$, lines chosen at 105° , near-point indeterminate, with $- 2$ c. axis $80^\circ \frac{1}{16}?$ $+$; under hyosc. with $+ 2.25$ c. axis $120^\circ \frac{6}{12}?$ $+$; L. E. $\frac{1}{16}$ $+$, lines at 105° , near-point 18 cm. for D = .5, with $- 2$ c. axis $165^\circ \frac{1}{16}?$; under hyosc. with $+ 2$ c. axis $80^\circ \frac{6}{12}?$ $+$.

2. Lizzie K., aged 23, R. E. $\frac{5}{16}$, lines at 120° , large print spelled with difficulty, with $- 3$ s. $\odot - 2.5$ c. axis $35^\circ \frac{5}{16}?$; under hyoscine with $- 1$ s. $\odot - 4.5$ c. axis $45^\circ \frac{6}{12}?$ $+$; L. E. $\frac{6}{16}$, lines at 60° , large print at 10 cm., with $- 4$ s. $\odot - 2.5$ c. axis $150^\circ \frac{5}{16}?$; under hyoscine with $- 1$ s. $\odot - 5$ c. axis $150^\circ \frac{6}{12}?$ $+$. These seemed accurate, but the cylinders alone were ordered; and with them she had a month later $\frac{6}{12}?$ each. Three

years later she returned with $\frac{6}{8}$, most of $\frac{6}{8}$, on the right and $\frac{6}{8}$ on the left, with these glasses. Her glasses had been frequently strengthened before coming to me, and she was wearing $- 6.5$ sphericals given by an optician "professor."

3. Miss M., aged 34, R. E. $\frac{1}{16}?$ $+$, lines at 105° , large print at 35 cm., with $+ .65$ c. axis $105^\circ \frac{6}{8}??$; under hyosc. with $+ 3$ s. $\frac{6}{8}??$: L. E. $\frac{6}{8}??$, no lines, near-point 25 cm., all glasses rejected; under hyosc. with $+ 2$ s. $\frac{6}{8}?$ These were given, but worn little except for near work; with them when last seen $\frac{6}{8}??$ right, and $\frac{6}{8}??$ left.

4. Miss Minnie C., aged 22, R. E. $\frac{1}{16}$, with $- .75$ c. axis $105^\circ \frac{1}{12}?$; under hom. with $+ 1$ s. $\odot + .50$ c. axis $20^\circ \frac{6}{8}$ $+$: L. E. $\frac{1}{16}$, with $- .25$ c. axis $75^\circ \frac{6}{8}$ $+$; under hom. with $+ 1$ s. $\odot + .75$ c. axis $160^\circ \frac{6}{8}$ $+$. Some exophoria, and she had worn concave glasses.

5. Mrs. G. R., aged 22, R. E. $\frac{5}{16}$, lines at 75° , chose $- 3$ s. $\odot - 2$ c. axis 165° ; under hyosc. with $- .75$ s. $\odot - 3.5$ c. axis $170^\circ \frac{1}{12}$: L. E. $\frac{1}{16}$, lines at 100° , chose $- 1$ s. $\odot - 1.5$ c. axis 10° ; under hyosc. with $- 2.75$ c. axis $10^\circ \frac{6}{8}$ $+$. With these the vision was slightly better when last seen.

DR. LIPPINCOTT: In the main I agree with the conclusions reached by Dr. Randall, because he distinctly states that the ametropia is to be fully corrected provided there is not some sufficient reason for not following this rule. In my opinion, cases presenting such conditions are not very unfrequently met with. For example: I sometimes find that the distortion of retinal images observed after correcting ametropia is so great that it becomes necessary to refrain from prescribing completely correcting glasses. This is especially noticeable in the case of artists affected with astigmatism of comparatively high degree and with axis oblique.

DR. JACKSON: The explanation of the period of complete rest of accommodation seems to me due to the excess of the dose used over the dose required to produce barely complete paralysis with the mydriatic used. I would confirm the reader's estimate of the benefit of giving the correcting lenses while the eyes are still under a mydriatic. A point not generally understood is that it is often as hard for the patient to become accustomed to partial correction as to a full correction, if the correction be for more than the manifest hyperopia. In some cases that have failed to see clearly with a partial correction of hyperopia, the full correction has been promptly accepted.

DR. DE SCHWEINITZ agreed entirely with the essayist, except in his choice of mydriatics, as he believed atropine was more efficient than hyosc. amine. In addition to the value of a strong mydriatic in aiding the determination of the refractive error accurately, this drug—atropine preferably, he thought—had a distinct therapeutic

to enable me to enter into anything like an elaborate consideration of the causes of myopia, for this reason it will be sufficient to state here that the weight of testimony seems to show that the causation of myopia depends on two essential factors, the first of which is an inherent predisposition on the part of the person, inherited, or otherwise; the second a determining cause, which may be looked upon as a species of seed which when planted in the prepared soil of predisposition, causes the development of the disease.

Among the predisposing causes may be mentioned arrests of development of the sclerotic coat of the eye, a peculiar conformation of the globe, and chief of all, the disease called choroiditis in its various forms. In this connection it will be well to mention that in cases of hereditary predisposition there is a congenital weakness of the sclerotic coat, and more especially in its posterior half. The contents of the globe of the eye, under any undue exertion of the organ, causes pressure on this naturally weak spot; this pressure causes the membrane to stretch and give way in a measure, and thus are started many of the cases of so-called progressive myopia. Among determining causes may be mentioned the acts of convergence and accommodation in using the eyes for near work, as for example, in reading, writing, sewing, etc., as both these acts tend to increase the intraocular pressure of the eye, and the pressure, spending its force principally on the membranes of the eye causes them to stretch and give way, particularly in their posterior sections, and in this way the majority of cases of myopia are started, and if the cause is kept up, of course the trouble will continue to increase in degree.

The first endeavors to find out the causes of myopia, were, it seems, made in Germany, where the trouble prevails to a greater extent than in most other countries. In this country Dr. Cohn examined the eyes of some ten thousand children, and found that one thousand of them were more or less near-sighted. He also found that the trouble steadily increased, both in regard to the number of cases, and in the degree of refraction, as he went in his examination from the elementary to the higher schools. Another discovery which he made was that there were, relatively, more cases of myopia in badly lighted schools than in those that were more favorably arranged in this respect. The publication of these facts by Dr. Cohn caused quite a stir in the school boards of Europe. Lord Montague brought the matter before the British Parliament, and, although nothing definite was done by that august body, still the official notice of the facts in this way attracted to the matter the attention of educators at large, and whatever could be done to bring about a better state of affairs was done, and a better condition of school rooms, in

the way of illumination, fresh air, better printed books, a judicious abbreviation of the school hours, etc., were the results of the agitation. As a consequence there was a marked reduction of the percentage of myopia among the scholars in the schools where the reforms were carried out. In speaking of this subject, Florschütz says that the number of myopic pupils fell from 21 to 15 per cent. three years after the building of the Coburg schools, according to hygienic principles, and Von Hippel, in an address at the anniversary of the foundation of the University of Giesen, made the statement that he found only 34 per cent. of myopia in the new schools of Giesen compared with 40 per cent., which was the usual average in the old buildings.

Considering all the information that is at our disposal in regard to the factors that enter into the causation of myopia, both in its starting point and developing stage, no one ought to doubt that the prime factor in this causation is work with the eyes at near range; therefore, it stands to reason that the only way to prevent or restrict the affection is to limit or prevent altogether this near work with the eyes during the years that are known as progressive ones for the disease, viz.: from the tenth to the sixteenth year, and for this purpose I would make the following suggestions:

1. A child who shows any marked predisposition to myopia, and whose parents, one or both, were affected with the disease, should never be sent to the public schools, as they are now constituted, but should be sent rather to some private class where the number of hours of study and the tasks could be arranged to suit the condition of the scholar's eyes. Of course, the lighter the tasks and the fewer the hours, the better it will be for the eyes; this, in any given case, could be regulated by the family physician.

While on the subject it occurs to me that it would be a move in the line of progress, if a competent medical man could be appointed by our school authorities, particularly in our large cities, who should have general charge of the sanitary regulation of our public schools, and who should pay particular attention to regulating the tasks and the number of study hours for such of the pupils as showed any predisposition to myopia. To me it seems very unjust to have a uniform system of tasks and working hours for all pupils alike in the same grade, irrespective of the physical peculiarities of the individual scholars, for one who inherits a weakly constitution, weak eyes, etc., will necessarily deteriorate physically in trying to keep abreast of a colleague, who may be naturally endowed with stronger eyes, and stronger physical powers. Examples of this may be seen every day. If we look at the myopic scholars, for example, in our public schools, particularly in our own country where the rapid, high pressure system of education is in full vogue, and

where the standard is entirely too high, we find that a large percentage of these scholars are subjects with weary eyes, with pale, thin faces, in which the story is plainly written that the *mind* is being educated at the expense of the *body*.

2. The sanitary condition of the schools should be first-class, ventilation, light, etc., should be as near perfect as possible, and our school boards should spare no expense in keeping up this condition of things, for it has an immense influence both on the condition of the eyes as well as the general physical condition of the scholars.

3. Whenever the system of one affected with or predisposed to myopia, becomes at all relaxed, all work with the eyes should be suspended, until the health is again entirely restored to its normal condition; for it must be borne in mind, that it is during lowered conditions of the system that certain forms of myopia make their greatest progress.

In this connection it will be well to state, that from my own observations, especially in the clinics of Germany and France, a large percentage of those affected with myopia are burdened with some constitutional taint, such as the tuberculous, scrofulous, etc., owing to which, the powers of life are usually below a healthy standard, and this, in itself, is a potent factor in furthering the development of the myopia, and singularly enough, it is especially during the years that myopia makes its greatest progress, viz.: from the tenth to the twentieth year, that tuberculosis and its near relation, scrofula, make their greatest advances, therefore the condition of the general health of a young person predisposed to myopia should receive the most careful attention on the part of the medical adviser.

4. Young persons, who may be predisposed to myopia, should never study at night time, all near work with the eyes should be done by good clear sunlight. If, however, artificial light is used for this purpose, the electric light is the best of all its competitors, such as gas, oil, etc., being far less injurious to the eyes, for the reasons that in point of color it more nearly approaches that of the sun, than any other artificial light known: Then its volume is more uniformly distributed throughout the room, and by virtue of the great strength of its illuminating focus, it can be placed high above the head, and still be of uniform service; and lastly, the light does not vitiate the atmosphere of the room, like gas, oil, etc. If means could be invented to render the light steady, it would be the prince of all artificial lights for near work with the eyes.

5. The books from which one predisposed to myopia should study, ought to be printed with tolerably large type, and the Latin letters are the best of all others, as they are less fatiguing to the eyes than the German, etc. This fact is, probably, the reason why most scientific works and students' manuals throughout

the world are now printed in Latin letters, and one thing that surprises me is that Germany, with all her intellectual progress, still retains the old, crooked German letters in book printing, and particularly in the daily papers, which are the poorest printed of any in Europe, and the bulk of the population have to read this miserable print, by the equally miserable light of a candle, as gas light is only enjoyed by the few in Germany. This fact struck me as one of the causes of the great amount of myopia that is found, particularly among the middle and poorer classes of that country. But to return to our subject: in reading, writing, etc., the eyes should be kept at a distance of about 30 centimetres from the text, and the reading, etc., should be frequently interrupted, so as to rest the eyes, they should be closed for five minutes or so at a time, or directed at some far away point.

6. In cases where the myopia is at all marked, all work with the eyes, such as study, etc., should be postponed until the sixteenth year. The child should, if possible, be sent to live in the country, where the range of vision is longer than in the city, and then it should be kept outdoors, in the fresh air, as much as possible.

7. The wearing of glasses by a myope is optional, at least for distant vision, as they have very little, if any influence in checking the progress of the affection. They are only useful as a means of enabling the wearer to recognize more clearly his surroundings, and when worn should be of a weaker refractive power than that necessary to correct the actual degree of myopia present, and they should not, as a general thing, be put on before the fourteenth year.

If, however, the myopia is beyond a certain degree, say three dioptics, then the use of proper concave glasses for reading and all other near work, may limit in a measure the progress of the disease by relieving the strain on the muscles of convergence, and in this way lessening the tension on the globe of the eye, which is one of the great factors in furthering the march of the affection.

8. In tolerably pronounced degrees of myopia I have found paracentesis of the cornea by means of a fine needle to do a great deal of good. It relieves the intraocular pressure that is often very marked in such cases, and thus retards the progress of the myopia; then another thing, it lessens the chances of detachment of the retina, which often takes place in high degrees of the affection. In practicing the operation, after making the puncture in the cornea, I usually cause the fluid to escape from the anterior chamber slowly, by pressing on the cornea, alternately, with the lower and upper eyelid. Twice a week is as often as I practice this treatment in any given case. The great advantage in letting the fluid escape slowly, is that the shock to the eye is not as great as when it is emptied rapidly.

DR. HAROLD N. MOYER, of Chicago, in opening the discussion, said: While I do not claim to be competent to discuss this paper, yet I feel that something ought to be said because of its evident value. There is certainly no subject in the range of ophthalmology of greater practical importance than the one to which this paper has been addressed. It is an able contribution—one that should be widely read by the general profession. I trust that the writer will not have it printed in the *Archives of Ophthalmology* or in some equally specialized journal, but publish it in some widely circulated journal, so that it can be read by the whole profession; for it seems to me it will do a vast amount of good if it is put into the hands of the general practitioner. In this way the subject can be brought before the various school boards in small as well as large country towns, and indeed in every large city.

DR. C. H. HUGHES, of St. Louis, Mo.: Inasmuch as other gentlemen do not manifest a desire to discuss this interesting question, I can hardly permit such a paper to pass without expressing my appreciation, as a general observer in medicine and a practitioner of thirty-one years' active daily experience, of the value of the position taken by the author of the paper in regard to the best methods of preventing and ameliorating this condition among our school children.

Germany has become largely a nation of myopics, and I hope that will never be the fate of America. There is something in the organic aptitude of the individual that develops myopia. To illustrate: It is not necessary that either of the parents should be myopic, and this question comes as near home to me as any one in medicine, for, belonging to a family that never had to wear glasses prematurely; married to a lady none of whose family had to wear glasses prematurely, there has developed in my family (in one of my children) this trouble. All of the other members of the family are free from it. I never wore a glass of any kind, nor my father or mother, until from 43 to 45 years of age, and these are the circumstances under which myopia appeared in my child.

At the age of 6 years the child became the victim of an exhausting fever—scarlatina. He convalesced tardily so far as the restoration of general vigor was concerned. There were no aural sequelæ, but there was evidence of damage done to the central (neural ganglionic) influences which preside over the nutritional processes of the organism, and it was with the utmost difficulty that I succeeded in rescuing my boy from decline. It became necessary to resort to all the therapeutic resources which would occur to a solicitous father practically familiar with the resources of our art. He was carefully and thoroughly nourished, he was tranquilized at night,

so that he did not lose the sleep he required for recuperation, his digestion was taken care of, and I traveled with him into invigorating atmospheres, but, in spite of all care, myopia developed. It is the first case that has shown itself in my family. There is no ancestral history which would lead us to expect it to appear in the family.

There is a great deal more behind myopia than is dreamed of in our present philosophy. We are very apt to explain it by attributing it to congenital deficiency of development alone, though it undoubtedly is the direct and immediate causative factor. But what is it in the organism of the child that singles out one of a family and, in the process of evolution from infancy up through childhood, causes the appearance of this deficiency? Of course, it is a failure in the central nutritional processes. There is a *minus* condition there instead of that *plus* process. There is a neuratrophic predisposition which makes the sequent myopia a possibility in myopics, and this may be either congenital or acquired. Myopic eyes are like congenitally shortened limbs, or like those trophic lesions that follow certain nerve trunk or nerve injuries, only in lessened degree. The methods of treatment, to be successful, must extend beyond the eye, and the oculist who satisfies himself with the immediate rectification of the condition of the eye alone that presents itself, will have only final failure for his pains.

Now, since the doctor advises outdoor exercise and all the conditions necessary for the proper evolutionary and developmental processes going on in the child, I would like to have him observe in the practice of his cases in the future the result of that treatment, and to find out how many of them are arrested and what proportion are ever cured. It is a question that becomes interesting when it strikes one's own family, and there is no doubt in my mind that myopia is just as much a product of abnormal and inadequate nutritional processes in the organism as the defective conditions in neurotics are, and the ophthalmologist, like the neurologist, otologist, or any other man who does special work in medicine, is the most successful practitioner who extends his range of observation and treatment beyond his immediate environment or practical work.

DR. C. W. MCINTYRE, of New Albany, Ind.: I do not know whether or not the writer of the paper called attention to the fact, that one of the principal causes of myopia is absence of proper light in residences as well as in school houses, but I know that to be true from experience. Myopic patients come to my office and consult me, and, after inquiry, they inform me that their residences and workshops are not properly lighted as I think they should be, and it is really necessary for our school boards to look after the sanitary condition of the schools in so far as they are properly lighted, etc.

I differ with the essayist in one particular, and that is, that the electric light is preferable to the other lights which he mentioned. I think an extreme light is just as damaging to the eye as insufficient light. We know that a number of myopic patients trace their condition to improper glasses used in reading or working. If our sanitary officers were to look after this, we would have less myopia in this country. If there is not more done in the future than there has been in the past, I fear we will get into a condition like Germany. It is necessary for every physician to take this matter into consideration.

As Dr. Moyer said, the paper should be placed in the hands of not only every specialist who devotes himself to ophthalmology, but it should reach the eye of every local practitioner, because we all have more or less of this class of patients which require our attention.

I wish to emphasize the fact that the absence of proper and sufficient light in residences and school houses is one of the principal causes of myopia as well as amblyopia.

DR. DOWLING, in closing the discussion, said: Something should be done to prevent this growing trouble. I am satisfied that were it not for intermarriages, especially in university centres, it would only be a question of time when we would all become myopics in this country. Were it not for the fact that people from the country intermarry with those of the city, myopia would be more prevalent than it is. This intermarriage is the only thing that saves us from becoming myopics. It occurs to me that it is becoming more and more frequent, especially in children, in our large cities. Take, for instance, Cincinnati, or any other large city, and we will meet with a large number of cases.

I believe that the appointment of a private medical officer would be a step in the right direction. I spoke to my friend, Dr. Culbertson, not long ago about this, and he said the health officer was supposed to attend to it. The average health officer has no time to attend to such matters. In a large city with perhaps twenty-five or more school districts, it would take up a good deal of time; nevertheless I maintain that a medical practitioner should be appointed to look after the sanitary condition of the students and regulate their hours of study, etc.

In order that the changes produced in tuberculous tissues by Koch's fluid may be determined as accurately as possible, the directors of the Charité Hospital at Berlin have given orders that the bodies of any patients who may die after having been treated by the new method shall be examined as soon after death as the law permits. Koch found such early examinations a great help in his investigations on cholera.

THE CLINIC.

UTERINE MYOMA—RENAL, CALCULUS AND SURGICAL OPERATIONS UPON THE KIDNEY.

A Clinical Lecture Delivered at the Regular Surgical Clinic at Rush Medical College, Chicago, Thursday, Oct. 2, 1890.

BY CHARLES T. PARKES, M.D.,
PROFESSOR OF SURGERY.

Gentlemen:—The patient before you, Mrs. J. F., æt. 37, is suffering from an abdominal tumor which has been present a number of years, all the time gradually, and of late, rapidly increasing in size, until it has reached the large growth which you see fills the entire abdomen now that it is displayed to view. It is a source of serious trouble and annoyance to her and the burden of it is surely undermining her general health.

She has faithfully, during the last five years, tried various remedies and treatments, but they have proved of no avail; so under our advice, she has come to obtain relief by the removal of the mass.

Quite a variety of opinions have been expressed by different physicians whom she has consulted, as to the nature of the tumor; and this diversity of opinions increases the item of doubt which surrounds all extensive growths concealed by the abdominal walls.

Some have decided that it is an ovarian tumor, cystic in character; others have supposed it to be an outgrowth from the uterus itself, forming what is called a fibroid tumor or myoma. The difference between these two varieties of tumor is very wide indeed, and usually there is no difficulty attending the diagnosis between them.

It makes, also, a very great difference to the patient whether the tumor is connected with the ovary solely or with the uterus. If connected with the ovary it is usually easily and safely removable; if an outgrowth of the uterus, it is removed many times with great difficulty, and the removal is dangerous to the patient, for, in the majority of cases, the uterus and its appendages must be removed with the tumor.

Now we will go over the salient points in the diagnosis of this tumor.

1. It has been slow of growth, giving a history of several years' duration, commencing low down in the midline of the abdomen where it was first discovered as a small hard mass. Its growth has been unattended, until within the last year, with any serious interference in any way with the patient's general health. Its growth for the first year was accompanied with a very noticeable increase in the amount of blood lost at each menstrual period, but the amount of blood lost has never been extremely severe.

2. Palpation of the abdomen shows that the

tumor is considerably larger than the uterus at full term; that it is smooth, even and regular all over the surface; that it is very hard and resistant to the touch; that it is non-elastic and does not fluctuate as a whole or in circumscribed areas. It is freely movable as a mass from side to side within small boundaries.

3. Percussion gives an absolutely flat sound all over the surface, with a boundary of resonance above it and in the post-lumbar regions.

4. Vaginal examination determines that the cervix is of normal size and length, and in proper position, rather high, as if lifted up. The finger, by pushing the vaginal walls upward, shows the cervix to seemingly grow upwards into a dense mass which cannot be limited. With the finger on the cervix, any and every motion made in the tumor by pressure through the abdominal walls is immediately transmitted to the cervix and it is moved accordingly.

All of these signs together lead me to the conclusion that we have to deal with a uterine tumor or myoma. The patient has been so informed, and she has been made thoroughly acquainted with the dangers attending the removal of tumors of this variety.

Well aware of the uncertainty in diagnosis accompanying all abdominal growths of large size, there will be some anxiety attending the disclosures of the abdominal incision. As soon as this is made the diagnosis can be definitely settled. The tumor's removal can only be accomplished by this incision which will now be made.

The opening through the abdominal walls should be made in the line of the linea alba from just below the umbilicus toward the pubis by a free use of the knife, and without a director, until the transversalis fascia is reached, as has just been done. Its length at first should be at least three inches, subsequently prolonged to reach the requirements of every special case.

When this deep fascia is uncovered to the full length of the opening through the skin, you should stop long enough to control the bleeding points in the wound. This is done temporarily by the application of these forceps; usually before the operation is completed, their pressure has permanently controlled the bleeding. This also prevents the blood from entering the peritoneal cavity when it is opened.

The opening through the remaining tissues, the transversalis fascia and the peritoneum, should be made carefully, in order to avoid wounding the bladder which is very likely to be carried up from its normal position into the line of the incision, in the development of a uterine tumor. It will also avoid wounding the tumor itself, or any other important viscus which may lie on the anterior surface of the tumor or between it and the abdominal wall.

This is best accomplished in all cases, by the plan usual with us, which we will now illustrate.

With these dissecting forceps the tissues at the extreme upper end of the abdominal incision, are seized by the operator and raised; at the same time the assistant, with similar forceps, raises them on the opposite side. With a free stroke of the knife an incision is made between the forceps. This procedure is repeated until a small opening is made into the peritoneum.

As soon as this is accomplished, one is frequently made aware of it, by the flow of peritoneal fluid through the opening, and a sight of the tumor. By this method the opening through the peritoneum is least likely to endanger the bladder.

The opening is very small, the tumor can just be seen through it, and yet I am satisfied that the diagnosis of myoma is the correct one, principally on account of the color of the tumor, which is dark red and vascular looking. Cystic tumors are steel white and shining.

With the finger inside the cavity, as a guide, the peritoneum is divided to the full length of the external incision. Now it is possible to see and feel the entire tumor and its relations. It has no adhesions—the bladder is not attached to its anterior surface. The broad ligaments are elongated and carried up to the highest point of the tumor on either side. One can see the immensely enlarged veins coursing between their layers. Here are the enlarged and elongated Fallopian tubes and the ovaries carried from their normal position high up into the abdominal cavity.

There can now be no doubt as to the character of the tumor. It cannot be drawn out through this small incision, so this must be enlarged upwards beyond the umbilicus sufficiently before the tumor can be delivered through the wound.

Before doing this it is best to introduce into the abdomen this large, thin, flat sponge, and to spread it out smoothly over the intestines, between them and the abdominal walls, in order to protect them and to keep them from bulging into the wound as it is increased in length.

This has been done and the incision made, controlling the bleeding as at first. A pair of snap forceps is put upon the peritoneal edge here and there to keep it from retracting or being pushed off the muscles of the abdomen. You notice that the sponge protects the intestines perfectly and enables the assistant to keep them up in the cavity of the abdomen, well out of the way of operative manipulation, in a manner entirely isolating the pelvis—this is a very necessary procedure.

As yet it is impossible for me to lift the tumor out of the pelvis so as to get at the proper point for its division. So that the next procedure consists in securing and dividing the broad liga-

ments on either side, for they bind the tumor down into the pelvis. This is called technically "tying off" the broad ligaments and requires great care, in order to avoid opening any of the large veins and to enable one to apply ligatures to the ligament for the permanent closure of all the vessels included in its folds.

It is done by seizing the broad ligament as close as possible to the uterus with the thumb and finger of the left hand at a point about half way down its lateral wall, and pulling the included tissues away from the uterine wall. With the right hand a pair of blunt pointed forceps are thrust through the ligament between the fingers and the uterus and opened laterally, in this way a separation is made close to the uterus without opening any large vessels.

Through this opening a needle armed with a long double thread is passed. As soon as it is drawn well through, a sufficient length of it is cut off to answer the purpose of tying that portion of the ligament which is left attached to the tumor and towards its top. This ligature is tied as close to the top of the tumor as it can be drawn, and prevents bleeding from the uterine side of the broad ligament.

The needle is still threaded and lies inside of the outer portion of the ligament. The thread is drawn through the needle far enough to make a second double ligature. The needle is then carried through the remaining outer portion of the broad ligament, at a non-vascular point, and this portion is tied in halves, just as one would tie the pedicle of an ovarian tumor. In this way all the vessels are securely fastened, and as the stump of the broad ligament is bisected by the ligature, it is very secure and little likely to slip.

This procedure is repeated in securing the broad ligament on the other side, and now the mass can be lifted out of the pelvis and we are ready to proceed to the next step of the operation, which is to permanently close the vessels in the uterus and tumor previous to its separation. This is done by tying around the lower part of the tumor this piece of rubber tubing. The rubber tube is as large as the middle finger, and when in position, should be drawn as tight as your strength will permit, its ends crossed once and secured temporarily at the point of crossing by a Nelaton forcep.

The determination to practice the intra- or extra-abdominal method of treating the stump was made before the operation was begun. In this case we will adopt the extra-abdominal method because it has given the largest number of recoveries. The tube is applied at such height on the tumor, so that when the abdomen is closed, the rubber tube will be outside of the abdominal cavity without any tension on the stump. It is now in position and fastened so that we can divide the uterus and remove the tumor.

It is very essential to ascertain the position of the bladder before the rubber tube is fastened, in order to avoid including this viscus in its grasp. If the bladder is drawn upwards on to the anterior surface of the tumor, it must be carefully dissected away from the tumor before the rubber is applied.

In cutting away the tumor, the incision should be made sufficiently far away from the rubber to leave tissue enough outside of it to prevent the rubber from slipping over the end of the stump. It is proper to introduce a strong pin through the substance of the stump outside of the rubber cord, to further guard against the occurrence of any such accident.

Cases in which the tumor develops low down and implicates the cervix to such an extent as to prevent apparently the formation of a pedicle, can be managed safely in the following manner:

1. Apply the rubber cord as low down as possible, near to the vaginal juncture, to control hæmorrhage temporarily.

2. Remove the tumor by an incision through its substance, without reference to its size, high enough to make the pedicle sufficiently long.

3. Enucleate from the stump all the separate myomata, if there be any, or the pieces of myomatous tissue that may be found in it.

4. Apply the permanent ligature at the proper height and remove the temporary ligature.

Cases of myoma are not infrequently met with in which a true myomotomy can be done. In these cases the tumor is moderate in size, grows in the anterior or posterior wall of the uterus.

It is uncovered by an incision through the thin layer of uterine tissue investing it, when it can be shelled out or enucleated by the finger with ease, without opening the uterine cavity. The walls of the cavity thus left are brought together securely by a series of interrupted catgut sutures, commencing at the bottom; and the peritoneal edges are united by a continuous catgut suture. In such cases neither the uterus nor its appendages are disturbed.

Hæmorrhage is controlled temporarily by the rubber cord drawn over the uterus and broad ligaments below the tumor. The cord is removed as soon as the wound is thoroughly sutured.

Now that the tumor is removed we see that the uterine cavity is opened. We proceed at once to disinfect this cavity by the use of the actual cautery or pure carbolic acid in order to avoid infection from this source. After this is done the stump is entirely shut off from the abdominal cavity by sewing the peritoneal covering of the stump to the peritoneum of the abdominal walls, at the lower end of the wound. This is accomplished by a continuous catgut suture encircling the entire circumference of the stump, closely approximating these peritoneal surfaces.

Adhesions soon form and entirely occlude the abdominal opening at this point, preventing subsequent infection.

The peritoneal cavity is carefully cleaned of all blood clots, and if the large flat sponges have been properly placed, there is very little manipulation required for this purpose; as they have kept every thing out of the cavity.

Now make a careful survey of the entire field of operation to see that all the vessels are secure, also have all the sponges counted. You should know absolutely how many there should be, and it is well to get into the habit of using the same number for every abdominal operation.

The rubber tube is now permanently fastened, previously removing the Nelaton forceps, by a silk thread carried through the tube at the point at which the ends are crossed, and securely tied.

Next the abdominal wound is closed by a series of interrupted silk stitches passed through all the tissues of the abdominal walls at intervals of about half an inch. It is well to have the last stitch above, and the first below the stump, include some of the stump tissue, thus making sure the isolation of the stump from the cavity.

Last of all the dressing: The free surface of the stump is mummified by a large quantity of iodoform powder, or by the use of the actual cautery. In this case we use the iodoform. A narrow piece of iodoform gauze is placed around and beneath the projecting borders of the stump; the abdominal wound and the entire abdominal walls are covered with a free dressing of iodoform, iodoform gauze, and cotton batting, retained in position by a broad abdominal bandage.

The operation is now complete and the patient is in good condition, showing no signs of shock or exhaustion. The perils the patient has to encounter are first, from hæmorrhage caused by some fault in controlling the vessels; and second, from septic peritonitis. There is little fear from the former on account of the care we have taken. From the latter source the danger is greater, for in extensive operations of this kind the danger from infection is extreme, and cannot always be avoided even when practicing the most vigilant care to prevent it. If we have not infected the patient she will recover from the operation with little trouble.

The specimen is a beautiful example of uterine myoma. It shows how these tumors are often multiple, and how easily the separate masses can be enucleated out of their bed or capsule of condensed connective tissue. You will have an opportunity to examine it: you will be impressed with its density and hardness, so that in the future this sign of its character can be easily recognized by you.

The patient will be put into an even, smooth, well warmed single bed, with bottles of hot water about her under the cover.

In order to relax the abdomen and remove all possible tension from the recent and tender wound, a pillow should be placed under the bended knees, and her shoulders slightly elevated.

The bladder should be emptied every six or eight hours, by means of a thoroughly aseptic catheter, unless the patient herself can empty it without discomfort.

If the anæsthetic causes nausea, this will be best controlled by keeping the stomach absolutely empty, still occasionally this distressing condition is relieved by teaspoonful doses of very hot water.

Thirst and dryness of the tongue and mouth, is in part controlled by wetting the lips and mouth frequently with cold water. If all goes well, these symptoms will pass away inside of forty-eight hours, during which time the patient must be encouraged by cheerful attention. No feeding should be attempted until they have subsided, after which the patient can be fed any kind of bland nourishment, gradually increasing its strength to normal diet.

It is a good plan to secure an evacuation of the bowels at least on the third or fourth day, or sooner, if the nausea persists and there is some tympanitis present. This can be accomplished by administering teaspoonful doses of sulphate of magnesia or Tarrant's aperient, at intervals of three hours, until four doses are given, unless the desired effect is produced sooner. This result may be assisted by glycerine enemata.

If the patient has much pain, my partiality is the use of an injection containing thirty drops of deod. tinct. of opium, one drachm of whisky and two ounces of beef tea. Repeated if required by the severity of the distress.

The external wound will need no attention if there be absence of rise of temperature, until the seventh day, when, if union is complete, the stitches may be removed and new dressings applied.

Just as much care must be used to prevent infection during the dressings as during the operation. The stump will probably be separated entirely by the third week, when it can be removed and the remaining excavated ulcer dressed with ordinary care, until it is filled up with granulations and cicatrized over.

After as severe an operation as this, the patient should be kept in the recumbent or semi-recumbent position, for at least four weeks.

RENAL CALCULUS AND SURGICAL OPERATIONS UPON THE KIDNEY.

The next patient has this history: Three years ago she was taken with severe pain, suddenly coming on, referred to the left side of the abdomen in the neighborhood of the left kidney. The pain extended over the front of the abdomen, after a time, and spasms of it, described as shoot-

ing, ran down towards the left side of the pubis. After lasting for a few hours it ceased quite as suddenly as it began.

During the presence of the pain the patient felt a frequent desire to pass urine, but discharged only a tablespoonful or so at every attempt to evacuate the bladder, and its passage was accompanied with considerable tenesmus and a severe burning pain. When the attack ended the urination was accomplished easily and attended with a large flow of urine.

In addition to the agonizing pain which marked the onset of this attack, and which persisted during its continuance, the patient suffered from nausea and vomiting. There was also great pallor of countenance; the features were pinched; the skin was bathed in clammy perspiration; and all these were associated with symptoms of profound constitutional disturbance of the circulation and nervous system.

This aggregation of symptoms accompany the passage of a renal calculus, or kidney stone, from the pelvis of the kidney into the ureter or through it into the bladder.

The pain commences as soon as the stone enters the ureter, and does not cease until it either falls back into the pelvis of the kidney or is forced by the accumulation of urine behind, aided by the contractions of the muscular fibers of the ureter, through the length of this tube into the bladder. Knowing this you can readily understand the special character of the accompanying pain, in that it commences suddenly and ends as quickly. This cycle of events is termed technically an attack of renal colic.

Remembering that there is a fair sized cavity at the renal end of the ureter, consisting of the pelvis of the kidney, and a very large cavity at the opposite end, in the shape of the bladder, you are prepared to understand how a stone or a shred of tubercular tissue, or a dense clot of blood, may, on the other hand, just enter the ureter and be displaced therefrom by some sudden movement of the patient. The renal colic caused by its impingement in the ureter suddenly ceases when it falls back into the pelvis.

As well can you understand how the attack of colic is far more severe and more prolonged if either of the foreign bodies mentioned is compelled to make the long transit through the entire ureter into the bladder, when the pain will also cease suddenly.

Such like attacks of colic will occur at intervals so long as calculi form in the calices of the kidney, and are displaced therefrom, and take up their journey to the bladder, as is the condition in quite a number of individuals.

Similar attacks may occur if there is present in any patient certain other pathological conditions of the kidney, such as tuberculosis, or cancer, or papilloma, etc. It is true also that calculous

formations are very apt to be associated with these pathological conditions.

We find in this patient, that she was free from any return of the attack until eighteen months after the first manifestation described, since then she has suffered from them as often as once in every two or three months. Since the second attack, the urine has contained gravelly concretions of urinary salts, some of them of considerable size, as large as a kernel of wheat, or larger. The urine has shown the presence of pus and blood in some quantity; of late the pus has been present in large quantities.

The patient's general health has suffered very much, until now she is emaciated, weak and broken down in spirits and physical strength, and is practically a confirmed invalid.

Some time ago her attending physician, while making an examination of the painful region during an attack of colic, discovered a tumor occupying the situation of the left kidney, and now you can see this tumor, showing as a slight projection of the abdominal walls on the left side over the neighborhood of the kidney. It is quite easy to feel it with the fingers of one hand pressed against the tissues between the last rib and the crest of the ilium, while the other hand is pressed against the front of the abdominal walls.

It is slightly movable, semi-elastic, smooth and even of surface, and is the left kidney distended with fluid of some kind. Probably the fluid is pus, as such a large quantity of this material is found in the urine, and its presence is due to infection with the pus microbe through the genito-urinary tract.

It is my belief also, that there is present one or more calculi, and this is based upon the fact that so many calculous concretions have been passed in the urine, as well as upon the fact that renal calculi are very sure, sooner or later, to be accompanied by an accumulation of pus through infection.

It is scarcely possible that this will prove to be a kidney affected with tuberculosis either with or without a stone, because it is unusual to have no other manifestations of the tubercular infection than is present in this one kidney, besides the bacillus of tuberculosis has not been found.

The diagnosis in this case is renal calculus with suppurating kidney.

It is, as well, certain to me that the substance and capsule of the kidney is intact, because had destruction of these taken place by ulceration or tissue necrosis, a peri-nephritic abscess would have formed, with the usual signs of accumulation in and bulging of this space between the rib and ilium.

A few days ago, we had occasion to direct you that whenever a patient came under your charge suffering from indications of bladder disease, never to think your examination is complete until a sound has carefully searched every portion of the blad-

der cavity. In this case we have an additional caution to give: never to be satisfied with an examination of a case of disease of the genito-urinary apparatus, without a rigorous inquiry into the condition of the kidneys, by resorting to inspection and palpation of the organs themselves, as well as their entire neighborhood, just as carefully as you would examine their secretions microscopically, and by all known tests, for evidence of change from normal condition.

In all these operations the primary incision to expose the kidney is made in exactly the same way, and all the steps will be illustrated to you upon this patient; and as we will no doubt find a calculus and remove it—this will be a nephro-lithotomy.

The direction is given, in order to make the diagnosis in such cases absolute, to sound the kidney by means of an exploring needle carried into the substance of the kidney, with the hope of having it come in contact with the stone—to strike the stone as it is termed—a very positive confirmation, if it can be elicited. It is even advised to go so far as to introduce the needle into the organ in several different directions for this purpose; and the trial has often been made before the primary incision uncovers the kidney, but of course oftener with failure than with success attending its practice.

Even after the kidney is to be seen at the bottom of the external wound, the exploring needle, or the probe, or even the finger introduced into the pelvis of the kidney or through its substance, sometimes fails to find the calculus; especially when it is small and hidden in an expanded calyx. Consequently you are not to conclude hastily that there is no stone present if this test fails even when the kidney itself is under inspection; certainly not, if the trial does not determine its presence when the instrument is introduced without an incision.

Given pointed and unmistakable evidence of the foreign body, as indicated by the occurrence of repeated attacks of renal colic,—with deep-seated and continuous pain referred to one kidney—with pus or blood or both, in the urine, even in comparatively small quantities, yet constantly discoverable; with the history of the passage of concretions of urinary salts; certainly if several, or all, of these signs are present in a marked degree, the surgeon is justified in exposing the kidney and incising its walls freely, in order that the pelvis can be explored in all directions and portions, by the finger—truly the only reliable probe.

It is true that even this crucial procedure sometimes fails to bring forth the calculus or to discover its presence. The kidney has been exposed a number of times and the pelvis explored without finding a stone. The renowned Mr. Henry Morris, of England, relates a case in which failure followed his search, but, so well convinced was he of the presence of the foreign

body, on account of the marked symptoms of his patient, that he proceeded to do a nephrectomy and found the stone in one of the calices of the kidney after the organ had been removed from the body. Mr. Morris was among the first, if not the first, to diagnose the presence of a stone in the human kidney and to deliberately plan, and successfully execute, an operation for its removal.

It has happened to me to fail to find a calculus on two occasions. In one a large calculus had been removed from the other kidney a year previously; in the other it seemed certain that the stone was lodged low down in the ureter. We may be able to get at it yet.

If an operation is done merely to expose the kidney and incise it, the operation is termed a nephrotomy. If, in addition, the operation is done to remove a calculus from the kidney, it is termed nephro-lithotomy. If the operation is to relieve the distressing symptoms due to the extreme mobility of the organ, called a movable kidney, in which the organ is first exposed and then fastened in some way to the edges of the wound, it is termed a nephrorraphy. If the operation is done to remove the entire kidney through the tissues of the back, it is termed lumbar nephrectomy.

Prognosis.—The successful ending of the many operations already done and being done upon the kidney for a variety of diseases, is leading surgeons to the conclusion that the operations are not especially hazardous. My own experience, embracing all the operations performed upon this organ, and including several repetitions of some of them, points in the same direction. There has been but one death, and that followed the most formidable of them—a nephrectomy for a greatly enlarged suppurating kidney. All of the operations short of nephrectomy have ended favorably and with rapid recovery. The simpler procedures of exposing and exploring the organ are not attended with much danger, if such rigorous aseptic precautions are taken as are recognized by every surgeon as necessary in all operations.

You understand that the incisions which we will make in this case, are exactly the same in every respect as those which are necessary for the execution of a nephrotomy, a nephrorraphy or a nephrectomy. The external incision should be about four inches in length, and made parallel with the last rib and fully half an inch below its lower border; commencing posteriorly, a little behind the prominent ridge marking the external border of the erector-spinae muscle. The course of the incision should always be made as directed, at the distance mentioned below the border of the last rib, on account of the dangers of opening the pleural cavity in any case in which the pleura descends below that rib or in such cases as there is present a supernumerary rib, or in which one rib is absent, and the normal relations of the pleura thereby altered.

The patient should be placed in the position here illustrated, on the sound side, with a tightly-rolled pillow, covered with an oil-cloth having an aseptic towel over it, placed under the opposite loin; thus the side to be operated upon will be made very prominent, and the interval between the rib and the crest of the ilium increased to its fullest extent.

The first incision should be carried with a free hand through all the tissues and fasciæ down to the anterior layer lumbar fascia. The length of the incision through the deep tissues being the same as that through the skin. The operator should avoid opening the sheath of the erector-spinae muscle. All bleeding vessels are secured.

The anterior layer of the lumbar fascia is then opened and divided to the extent of the wound. As soon as this is done, there will bulge into this opening, the peri-nephritic tissue in which the kidney rests. Its investing connective tissue should be opened and the operator will then readily recognize the peculiar white fat surrounding this organ. A portion of this fat may be pulled out and snipped away, or its spaces opened and torn by the fingers, as you now see me do, after which the kidney can be readily felt by the finger or seen with the eye, as a darkish red body, moving slowly up and down with each respiratory act.

If the kidney is not now easily found, as is frequently the case if it is not enlarged to any extent, it can be brought into view sometimes by a simple procedure. An assistant introduces two fingers into the wound and pulls strongly upward against the last rib. This widens the wound and at the same time stretches the peri nephritic tissues towards the wound. The assistant with his disengaged hand should also press strongly backwards through the anterior abdominal walls over the region of the kidney, thus pushing it into the wound.

The space for operative manipulations, in cases of enlarged kidney, can be greatly increased, and with safety, by a vertical incision commencing in the one already made, and carried downwards towards, and forward parallel with, and close to the crest of the ilium. With the finger deep in the wound as a guide, this latter incision can be rapidly made without danger of opening the peritoneum.

It was used upon one occasion successfully by myself in the removal of a kidney enlarged to the size of a cocoanut; and made a space large enough for all the necessary manipulations without difficulty.

After the kidney is exposed in the manner described and brought fairly under the touch of the finger and the sight of the eye, by the removal of its investing fat, the next step will depend upon the operation which is being performed.

In this case the object is to remove a stone from

the kidney and evacuate what other accumulations may be present. So we will now first introduce the finger into the wound and palpate the kidney over its anterior and posterior surfaces, reaching as far beyond the pelvis as possible in both directions.

The best command of the kidney can be obtained in these cases, by the finger passed over its posterior surface. The finger used in this way will sometimes detect the stone in the kidney, or determine a noticeable bulging and hardness in some portion of its surface which may indicate its presence.

(To be concluded.)

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

REMARKS ON LAPAROTOMY FOR PERITONEAL TUBERCULOSIS. — LAUENSTEIN (*Centralblatt für Chirurgie*) thinks that it is remarkable that the usefulness of this operation should have been accidentally discovered, and that it should have been practiced empirically to the extent which it has. He would refer the good effects to two facts in the life history of the bacillus: it requires moisture, and is rapidly killed, even by a few minutes' exposure to the direct rays of the sun. He thinks that both of these factors may explain some of the good effects. In operating he allows the direct rays of the sun to fall upon the abdomen and its contents. Of course, the operation relieves the ascites always present in these cases, and so lessens the amount of fluid surrounding the tubercular process.

EFFECT OF STRYCHNINE ON THE CEREBRAL CORTEX. — For years strychnine has been used in certain convulsive disorders, especially epilepsy, not only alone but as an ingredient in several popular formulas. Its value has been questioned by many, but it has been held to be of use by several eminent clinicians.

Recently BIERNACKI (*Therap. Monatshefte*, August, 1890) by his experiments has thrown considerable light on the action of this drug. The first of these experiments related to the action of the drug when given hypodermically. The animal was first trephined, and after waiting for the normal excitability to return, a dose of strychnia was given. It was found that a current which would produce violent tetanic spasms, would under strychnia be reduced to a faint tremor. The degree of reduction was directly dependent upon the dose employed. A second series of experiments was made, in which the strychnia was directly applied to the cortex. At first marked contraction of the vessels was produced, which soon passed off. The effect on electrical excita-

bility was the same as when the drug was injected under the skin. Compared with cocaine or morphine, when directly applied to the cortex, the effect of strychnia is very slow, it taking from twenty-seven to thirty minutes for its action to appear, and in each instance symptoms of spinal irritation appeared before the depressing effects of the strychnia. From these facts the author argues that strychnia does not directly depress cortical activity, but only indirectly by stimulating the action of the cord.

Certainly the observations are of interest, as they furnish an objective basis for a treatment that has been heretofore employed empirically.

GALACTORRHOEA.—**BRAUN** (*L'Union Médicale*) recommends in excessive secretion of milk the application of a compressing bandage to the breasts, low diet, interdiction of beer, derivation to the intestine by means of a saline purgative. In case these measures prove ineffective the following mixture may be given:

R. Iodide of potassium, 2.
Syrup raspberry, 20.
Distilled water, 100.

Sig. A tablespoonful three times daily.

QUININE IN SEA SICKNESS.—**RICHERT** has recommended large doses of sulphate of quinine as a specific in seasickness. Recently one of his pupils has written him a letter (Marcel Boudovin, *Le Progrès Médical*) in which he notes the utter inefficacy of this treatment in his own case. It is to be noted, however, that Boudovin did not follow strictly the injunctions of the teacher to remain as quiet as possible in the recumbent position.

SANTONINOXIME.—This is the name of a substance prepared by M. CANNIZZARO (*Jour. de Méd. de Paris*) by the action of chlorhydrate of hydroxylamine on santonine. Santoninoxime is a white crystalline substance, soluble in alcohol and ether, but dissolving in water, whether acid or alkaline, with difficulty. C. M. Coppola has found that this substance possesses the same action in the intestine as santonine, but owing to its lessened solubility it is much less poisonous, and it should therefore be preferred to the santonine. Its dose as an anthelmintic is three times as large as that of santonine.

Medicine.

PRURITUS ESSENTIALIS.—**FEINBERG** (*Centralblatt für Gynäkologie*) describes two cases of idiopathic pruritus.

On the 1st of April, 1888, F. was consulted by a young woman, who requested that she might be given a certificate, to the effect that she was not affected with any venereal disease. The woman had been married two months, and was suffering from an intense pruritus of the external genitals and adjacent parts. The itching caused

intense mental depression. It appeared to be connected with menstruation, coming on a day or two before, and disappearing a couple of days after each period. An examination showed a pale mucosa, with abundant marks of old and recent excoriations on the external genitals. The deep mucosa was in consistence and general appearance normal, but very sensitive to the touch (hyperæsthetic). The author having excluded all other causes came to the conclusion that he had to deal with a purely nervous disturbance. He prescribed bromide of potassium internally with the application of a hot solution (1:4000) of corrosive sublimate to the external genitals. The patient improved, and he saw nothing of her until eleven months later, when he was again called and found a frightful pruritus that had extended from the pudendum almost over the entire body. This had come on during delivery; after a few days it subsided and not again return.

A second case was that of a multipara who for the past two years had suffered from vaginal pruritus during menstruation. During an abortion the pruritus had extended over the body, but it ceased as soon as the fetus was expelled. In consequence of a severe mental emotion she was taken with uterine hæmorrhage, which was followed by a severe general pruritus. Feinberg found the patient sitting on the side of the bed in great agitation, scratching first one portion of the body and then another, convinced that an abortion was about to take place.

The writer thinks that in these two cases, we have examples of nervous pruritus not dependent on secondary causes. This position is, however, negatived by some writers who think that pruritus essentialis has no existence.

ACUTE PURPURA.—**ZANETTI** (*Atti e Rendiconti della Accademia Medico Chirurgical di Perugia*) reports the case of a woman 23 years of age, who had had pains in the lumbar region and buttocks, associated with slight cephalalgia for some time. Of late these symptoms had become worse, and at the time he saw the patient intense pain had developed in the sacral region, attended by considerable prostration, elevation of temperature, (38.4 C.) hæmatemesis, sub conjunctival hæmorrhages, punctiform hæmorrhages on the arms, buttocks and neck, lenticular hæmorrhages on the belly, genitals and inner surface of the thighs. The cutaneous hæmorrhages extended rapidly accompanied by hæmaturia and metrorrhagia, followed by death from syncope on the third day. The autopsy revealed extensive sub-peritoneal hæmorrhages with extravasation into the peritoneal cavity and ventricles of the brain, intestinal hæmorrhage, spleen slightly enlarged and friable, beginning fatty degeneration of the liver.

In the absence of all signs of poisoning and of general conditions capable of explaining the multiple hæmorrhages, the author arrives at the conclusion that the case is one of morbus maculosus Werloffii, notwithstanding that the course of this disease is ordinarily chronic, and the termination favorable.

CANCEROUS STRICTURES OF THE ŒSOPHAGUS.

—The problem of feeding a patient in deep seated carcinomas of the œsophagus is very difficult; gastrostomy has been tried, but it is a delicate and dangerous operation, and one that can never in any way prove popular because it is not in any sense curative. The introduction of a permanent sound that shall keep the stricture dilated and through which the patient may be fed, has been attended with success. Recently an article in the *Lyon Médical*, (*Gazette Médicale de Liège*) favors the permanent sound, claiming that it is easily introduced if done sufficiently early. The writer of this article prefers the long, soft sound with stylet to the short, hard canulas recommended especially by some German writers. The chief dangers are from hæmorrhage and ulceration. The writer uses a long, soft sound that is brought out of the nose. At first it excites considerable reflex spasm and may cause vomiting, but the parts soon become accustomed to the foreign body, which then causes no further trouble.

Surgery.

BRAIN ABSCESS, APHASIA, OPERATION.—A. SÄNGER and C. SICK (*Deut. Med. Wochenschr. Centralblatt für Klin. Med.*) describe an interesting case of brain abscess with operation. A man 52 years of age, with left-sided chronic, purulent otitis media, had an exacerbation of his trouble—severe pain in the left ear and side of head, disturbance of the general health, pressure symptoms and disturbance of speech, characterized by forgetfulness of words and clumsiness of expression. The patient expressed his ideas frequently in writing. Later choked disc presented itself, with left facial paresis. A diagnosis of circumscribed abscess in the left temporal lobe was made. An operation was performed, and by the exploratory puncture 1 drachm of thick pus was removed from the posterior third of the left frontal convolution. After the operation the patient's speech and general condition improved. At the end of a few months the patient was apparently as well as ever, with the exception of a slight weakness of memory.

SUBACUTE CERVICAL ADENITIS OF INTESTINAL ORIGIN.—M. NICAISE (*Revue de Chirurgie*, September 10, 1890) last year attended a woman, aged 80, who suffered from a swelling in the right supraclavicular region. The skin was violaceous, tense at certain points, and on palpation obscure fluctuation could be felt. Pain was severe, and

the arms could not be moved. The swelling had lasted for three months; it began during convalescence from severe enteritis, and the patient had never regained her former health. Three separate lymphatic glands had first been affected, and they had slowly increased till they formed one tumor. At first the disease looked like simple degeneration of the glands, and it was long before any fluctuation could be felt. An exploratory puncture was made, and pus exuded, confirming M. Nicaise's diagnosis of suppurative adenitis. Then an incision was made. The pus was thick; the cavity whence it issued was tortuous. A counter-opening was made, the cavity was washed out with an antiseptic solution and drained, and covered with antiseptic dressings. Cicatrization was very rapid, although the patient was so old, and she regained her health as before the enteritis. The adenitis seemed to be a kind of critical phenomenon which freed the organism from the poison with which it had been infected in the course of the intestinal disease. Chronic adenitis of the cervical glands is not rare in old age; any other disease predisposes them to inflammation. Troisier has already pointed out that enlargements of the cervical glands are sometimes observed in cases of cancer of one of the abdominal viscera, and M. Nicaise has diagnosed the latter condition through the presence of enlarged lymphatics in the neck.—*Brit. Med. Jour.*

Obstetrics and Diseases of Women.

IMMEDIATE REPAIR OF THE PERINEUM.—T. H. HANCE, M.D., in a paper read before the New York Academy of Medicine, advocated the immediate repair of injuries to the pelvic floor, where the laceration had not extended through into the rectum, that is, in cases where there was either a clean cut through the perineum, or through the skin and perineum to one side or other of the median line. In those cases where the posterior vaginal wall had been ruptured without laceration of the skin, the operation also offered good results. He thinks that there ought to be no difficulty in recognizing these incomplete lacerations at or just before delivery (by digital examination) thus gaining time to make preparations to repair them at once. He introduces the first suture high up in the vagina above the tear, in order to avoid the formation of pockets; he also thinks that this method offers the best results for the restoration of the pelvic floor. If the laceration has extended up on both sides, they are to be repaired separately. The patient's legs are kept tied together for twenty-four hours after the operation, and the bowels are moved on the third day. He says that two points ought to be closely observed in order to insure success, that is the careful adaptation of the lips of the wound, numbering the sutures to individual requirements; and secondly, the observance of strict antiseptic pre-

cautions, including the use of antiseptic douches before and after the operation, antiseptic pad, etc.

All members taking part in the discussion expressed themselves as in favor of immediate operation.—*Archives of Gynecology*.

TREATMENT OF INOPERABLE UTERINE CARCINOMA WITH CHLORIDE OF ZINC.—HABERLIN (*Correspondenz-blatt für Schweizer Aerzte*) recommends the use of a paste composed of chloride of zinc. He agrees with Meyer, Schröder and Leopold that the total extirpation of the carcinomatous uterus presents about all that is required for an operation both in its effectiveness and mortality, he also agrees with Leopold that in the cases in which we have a recurrence, the disease is milder and more easily endured. It is, however, in those cases in which the cancerous process has affected other organs and a certain amount of affected tissue must be left that it is well to study the effect of other remedies. He places the mortality of these cases at 20 per cent. or over. Kaltenbach claims that even where a considerable portion of the morbid growth is left an operation is still justified, as, by that means, the pain, discharge and itching are lessened, while sleep and appetite are improved, thus rendering life more endurable. The same result can be achieved by a less bloody and safer operation, which may be employed in cases in which total extirpation is out of the question.

The author gives the histories of five patients that amply attest the correctness of his views. They were all treated by the application of chloride of zinc paste, and in each case there was marked amelioration in the local symptoms and improvement in general health. In only one case did severe hæmorrhage follow, and that was one in which the patient was allowed to leave the clinic before cicatrization was complete. Discharges were greatly lessened in each case, and in some they ceased entirely.

Chloride of zinc has been used in the form of solution and as paste. A. Martin tried as early as 1879 the paste recommended by Labbé (chloride of zinc and starch, equal parts). Vohwinkel used a similar mixture composed of chloride of zinc four parts, farina three parts, oxide of zinc one part. Ely van de Warker in 1884 recommended solutions of 30 and 50 per cent. From the observations of Ehlers it is clear that the proper localization of the remedy is very difficult if it is in solution. For these reasons the writer has confined his experience to the use of a paste which is made by rubbing equal parts of chloride of zinc with a small quantity of water. A quantity corresponding to the defect to be treated is placed upon a cotton tampon, and carried into the cervix. To fix the tampon and protect the vagina iodoform gauze is placed about the cervix. The time that the tampon is allowed to remain

varies according to the reaction; after it is removed the vagina is irrigated with an antiseptic solution. The technic of the operation is of the simplest.

What is the danger of this operation? A. Martin has observed cauterization of the bladder, rectum and perforation of the peritoneum; one patient died from hæmorrhage. The author's patients have for the most part borne the operation well, notwithstanding the cauterizations have been very energetic; it is naturally difficult to determine just how deep to go; but they have been governed to some extent by the amount of pain produced; if greater than could be overcome by an injection of 0.01 of muriate of morphia, the tampon is removed, when if it is found that the action has not been sufficient, it is again renewed.

Five to eight days after the application of the paste, a thick (5 mm.) eschar separates, leaving a granulating surface that bleeds, when touched, but not spontaneously. While the theory of Van de Warker that zinc chloride has a specific action, in that it coagulates carcinomatous tissue, and produces an inflammation in normal tissue, has been negatived by Ehlers, yet it is equally true that it is the very best cauterant that can be used, as no other produces so perfect an eschar.

The writer closes with the following sentences: "In cases of carcinoma where all of the diseased tissue cannot be removed the hope of improvement is very slight as compared with the dangers of the operation. My own cases, while few in number, prove that we have a simpler and less dangerous method in these doubtful and certainly inoperable cases, from which the most favorable results may be expected. While we exclude total extirpation as a palliative measure, we must not stand with our hands in our laps, but begin a careful palliative treatment in the use of chloride of zinc that is capable of giving to these patients many comfortable days, even when the circumstances are relatively unfavorable."

Ophthalmology.

A CASE OF DOUBLE-SIDED HEMIANOPSIA.—FÖRSTER (*Jahres-Bericht der Schlesischen Gesellschaft für vaterländische Culture*, 1890) describes the case of a postal secretary who had suffered from right hemianopsia for four years without any disturbance of the general health. The dividing line between the defective and functionary halves of the visual fields was in a vertical meridian, though it deviated about 2° toward the right or affected side. The patient had continued his occupation notwithstanding the visual defect, but in August, 1889, he, in the course of three days, lost vision in the left half of the field, also without any disturbance of the general health. In November the patient when moving presented the appearance of one totally blind. Examination showed a visual field of 3° horizontal and 2° ver-

tical, at the fixed point, with acuity of vision about one-third. Four months after the second attack the papilla optica did not present a trace of atrophy. Optical memory was good, though the color sense was completely absent, as was the ability to grasp or reproduce topographical conditions (*topographische Vorstellungen*)—this last defect was so great that the patient after some weeks was not orientated in his own room; further, he was unable to reproduce the boundaries of countries or the routes that he had frequently traveled. The author regards the condition as due to a thrombus of the cortical vessels. The deviation of the dividing line towards the defective side which is often observed in hemianopsia, he attributes not to a mixing of the nerve elements at the fixation point, but to a richer blood supply in the cortex corresponding to the greatest acuity of vision. The case further teaches that in the occipital lobe we have the seat of the topographical remembrance and not that of visual memory.

THE CORROSIVE-SUBLIMATE TREATMENT OF GRANULAR CONJUNCTIVITIS.—The treatment of different forms of granular conjunctivitis with various strengths of corrosive sublimate solution seems to have given good results in the hands of Gaia (Annales d'oculistique). The details of the treatment are published in the *Union Médicale*. The sublimate is used in strengths of from 1 to 300 to 1 to 500, and is applied to the palpebral conjunctiva with a camel's-hair brush every two hours, or according to the severity of the case. If the disease is slight, a collyrium of 1 to 1,000 is given. There have been no symptoms of poisoning or complications to the cornea from this method, but very prompt amelioration of the symptoms has followed its employment in every instance.—*N. Y. Med. Journal*.

Physiology.

INVESTIGATION ON THE SENSE OF TASTE.—OEHRWALL (*Skandin. Arch. f. Physiol.*, II, p. 1, 1890) like other observers, recognizes four kinds of taste, namely, sweet, saline, bitter and acid. There does not seem to be any transition between these four varieties, so that the author regards the differences between them as those of modality, and not as qualitative differences of one sense. When cocaine was applied to the tip of the tongue the sensibility for adequate stimuli, that is, sapid bodies, disappeared, and even the electrical current failed to excite a sensation of taste. It is remarkable, however, that there remained only a sensation of heat or cold. The chief part of the communication deals with punctiform stimulation of the individual papillæ by means of fine brushes. There are marked functional differences amongst the papillæ. The fungiform papillæ are excessively sensitive to tactile, thermal, and cold impressions, so that by simply

touching one such papilla a very complex sensation results, first that of contact, nearly simultaneously cold, and then the taste sensation follows. Electrical stimulation may excite acid or other tastes. Goldscheider and Schmidt have also investigated this subject (*Centralblatt f. Physiol.*, vol. iv, No. 1, 1890). They find that certain parts lying between the papillæ do not excite the sensation of taste, and that the several papillæ are not all equally capable of exciting the several tastes. In many individuals the taste of "sweet" alone is developed near the middle line on the hard and soft palate. Acid tastes are less developed in the circumvallate papillæ than on the anterior part of the tongue. At the anterior part of the tongue only the tip and sides seem to excite taste. The so-called alkaline taste excited by a constant current seems to be a composite result, due to a mixture of bitter and saline tastes with stimulation of sensory nerves as well. Between the papillæ there is never any sensation of taste. It is possible to fatigue the papillæ for one taste, for example, the circumvallate papillæ may, by repeated application of quinine, cease to detect bitter, while still capable of responding to sweet substances. Stimulation with acid, however, diminishes the excitability for all stimuli. It would seem from these researches that there are four different kinds of gustatory sensations—bitter, saline, acid, and sweet; that each seems to be related to a special form of peripheral end organ, and that the papillæ are supplied in different proportions with these several fibres or nerve endings, so that it appears that the doctrine of the specific energy of nerves is also applicable to the sense of taste.—*British Medical Journal*.

Bacteriology.

PASTEUR INSTITUTE OF PARIS.—In the October 19 issue of the *Journal de Médecine de Paris*, three deaths were reported to have taken place after the preventive inoculation.

On the 6th of September last, in Ille sur-la-Tet, arrondissement of Prades, a mad dog bit Jean Domenech, 7 years of age, and Sebastian Vidalon, aged 46 years, the last having had his lips and part of his face torn away by the fangs of the enraged animal. The department sent both patients to the Pasteur Institute, where they were treated, and returned home apparently well. A letter from Perpignan under the date of October 10 states that both unfortunate victims had died after the most atrocious suffering.

A little citizen of Guyotville, 14 years of age, had been at the Institute for one month in consequence of a bite received September 8. He died the morning of the 12th of October, after a night of horrible suffering. The wound had not been cauterized, and the boy presented himself for treatment five days after receiving the bite.

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THE SURGICAL TREATMENT OF LARYNGEAL
TUBERCULOSIS.

Surgical intervention in certain cases of tuberculosis of the larynx marks an epoch in laryngology. When HERYNG, of Warsaw, and KRAUSE, of Berlin, first promulgated their methods and results, laryngologists were generally skeptical. They bethought themselves of the numerous instances of conjoined laryngeal and advanced pulmonary tuberculosis in whom to scrape and inject, to cut and cauterize, seemed unnecessary and even cruel.

But other, more sthenic cases exist, with whom the lungs are "not appreciably" or but slightly infiltrated, without fever and cachexia—patients otherwise capable of resisting the attack of the bacillary monster, at least for years, but for a laryngeal complication.

At times the deposit of tubercular foci excites the laryngeal epithelium to proliferative activity, producing mammillated or villous neoplastoid projections, which cover by preference the inter-arytenoid region, but which may extend to other parts of the larynx, and so encroach upon its lumen as to present a choice only between intralaryngeal surgical intervention, tracheotomy, or death hastened by *dyspnoea*. Again, tuberculous ulceration, especially of the epiglottis or arytenoid region, by rendering deglutition excruciatingly painful, may present the alternative only of surgical intervention to promote healthy cicatrization or death hastened by *dysphagia*. To these graver complications, *dyspnoea* and *dysphagia*

may be added also *aphonia* as a third indication for the surgical method. Nor need the actual presence of such distressing states be awaited, but one should operate also in the early stages, on the principle of prophylaxis.

By "surgical treatment" is meant the removal of exudative and proliferative material by the curette, cutting forceps, or punch, and the *curettement* of tuberculous ulcerated areas, each followed by the application of lactic acid as a mild escharotic, which is believed to exert a specially favorable influence in promoting cicatrization. The mere application of lactic acid without previous preparation by incision or scraping of the part, is not conceded to be within the scope of the term "surgical," although a 60 to 100 per cent. lactic acid solution alone, may suffice when the ulcers are already well exposed.

The many papers and discussions before the Sections of Laryngology, respectively, of the Tenth International Medical Congress and the recent meeting of the British Medical Association, witness the importance of this subject. At Berlin, HERYNG, STÖRK and SCHEINMANN spoke favorably of the method, and KRAUSE exhibited cases apparently cured. At Birmingham, Mr. CHARTERS J. SYMONDS, of Guy's Hospital, read the opening paper. He approached the subject from the standpoint of a surgeon having to deal largely with the eradication of tubercle from joints, bones, skin, etc., and while recognizing the greater difficulties surrounding operative interference in the larynx, parts of which are not readily accessible, he held that with skill, and the instruments now in use, these difficulties could be surmounted.

In opening the discussion Dr. G. HUNTER MACKENZIE, whilst deprecating heroic measures in individuals with extensive pulmonary participation, advocated in suitable subjects, the surgical removal of papillomatous or exudative material and the stimulation of ulcers to more healthy action by lactic acid, menthol, or iodoform, although he asserted, from prolonged experimentation, that the action of these agents upon the bacilli was absolutely *nil*, and believed that they were not superior for the purpose to chloride of zinc, carbolic acid, and other materials. Mr. LENNOX BROWNE insisted that it was important to apply the lactic acid with some friction and that the surgical treatment was then ben-

eficial in cases of ulcerations and granulations peculiar to the chronic stage of this disease.

In estimating results it must not be forgotten that laryngeal disease in tuberculosis, may be tubercular, non-tubercular, or mixed. Such patients are prone to simple laryngitis, and non-tuberculous exudation and even superficial ulceration can ensue, which, of course, would readily heal. Further, that spontaneous cicatrization of real tuberculous ulcers has been observed.

But with all due allowance, the cases in which either material amelioration or a local cure has been induced by the observers mentioned, as well as by GOUGENHEIM and LUC, in France, justify the following conclusions:

That the surgical treatment of laryngeal tuberculosis may be advantageously undertaken:

1. In all cases in which there is little or no evidence of pulmonary disease.

2. In those accompanied by dyspnoea, dysphagia, aphonia, or severe cough, with existing but not rapidly advancing pulmonary participation.

That asthenic cases of conjoined laryngeal and advanced pulmonary tuberculosis ought not to be subjected to violent local treatment, but should receive only mildly stimulating and sedative applications in the form of sprays, powders or pigments.

CHLOROFORM VERSUS ETHER.

The report of the Hyderabad Commission on this subject is doubtless fresh in the minds of our readers. It will be remembered that the unanimous conclusion of the members of that body, after very elaborate investigation, was, that in death from chloroform respiration always ceased before any dangerous failure of the heart took place, and that its effects were precisely similar to those of ether, except that the dose of ether needed to be much larger. Naturally, a view of the subject so opposed to the opinions of a large proportion of the profession could not be expected to meet with immediate acceptance, and, as a matter of fact, it was quickly controverted in various quarters. An important contribution to the subject has just been made by DR. J. A. McWILLIAMS, in a report to the Scientific Grants Committee of the British Medical Association, published in the *British Medical Journal*, which

goes far to show that the conclusions of the Hyderabad Commission are not applicable to all animals, and that there is some ground for the belief, heretofore widely held, that chloroform has, in some cases, a pernicious influence on the heart that is not shared by ether.

Dr. McWilliams began his experiments in 1888, at a period, therefore, long before the report of the Commission, and continued them at intervals down to a recent time. The animals employed were principally cats, and the aim of the investigation was specially to observe directly the effects of the drugs upon the heart. For this purpose, the chest was opened, under suitable precautions against hæmorrhage, and an automatic recording apparatus attached to the heart, artificial respiration and the administration of the anæsthetic being effected by means of a bellows connected with a canula inserted in the trachea. By this means, it was possible to watch the action of the heart during the experiments, while the circulation went on undisturbed, except for the effects of the drugs administered. It was found that dilatation of all the cavities of the heart frequently occurred under the influence of chloroform, at an early period, in many cases before the cornea became insensible, and without interference with the regularity of the heart's action. This was usually associated with a fall of blood-pressure, but bore no constant relation to it. In some cases a periodical depression of the ventricular action was also noticed. Neither of these effects was observed from the administration of ether, even when pushed to the extent of completely abolishing the conjunctival reflex. In many cases the drugs were repeatedly administered, alternately to the same animal, with the result that dilatation of the heart uniformly took place under chloroform, and was as uniformly absent, with an equal or greater degree of anæsthesia, when ether was used.

To meet the objection that these results might be in some way due to the opening of the chest, chloroform was, in a number of cases, given in the ordinary way, and the chest quickly opened, when the heart was found dilated, as in the other experiments.

In three cases cats became suddenly collapsed during the administration of chloroform preliminary to the insertion of the canula, while natural

respiration was going on regularly and efficiently. The pulse was found, in each case, to be imperceptible, and, after respiration had gone on for some time, the heart was found, in each case, on opening the chest, to be contracting so feebly as to be entirely ineffectual in propelling the blood. All the animals were resuscitated by rhythmic compression of the heart with the thumb and finger. As a general rule, however, in death by chloroform, respiration ceased before any such failure of the heart's action as to be incompatible with life.

It was found that, with a given proportion of chloroform in the inspired air, changes in the rapidity of respiration had a marked effect upon its absorption. An amount of chloroform that could be given with safety during quiet respiration, speedily produced alarming symptoms when respiration became rapid and deep.

The most effectual way of increasing the blood-pressure in the carotid, when it had fallen to a dangerous degree, was found to be firm compression of the abdominal aorta.

The practical bearing of these facts is obvious. The value of such investigations as those that led to their discovery is equally so. Among the thoughts which they suggest is the question how soon such researches will be carried on with funds contributed by the American Medical Association.

KOCH AND HIS CRITICS.

In the blame which has, in various quarters, been freely bestowed on the man who is, just at present, the most prominent figure in the medical profession, for not at once making all the details of his discovery public, the important circumstance has been ignored that he does not seem to have been altogether a free agent in the matter.

DR. KOCH is a salaried officer of the German government. The Hygienic Laboratory, in which his researches have been carried on, is supported by public funds, and the investigations themselves were a part of the work for which he is paid. Under such circumstances, it would not be merely politic, but eminently fitting, that, as long as he retains his office, he should pay a good deal of regard to the wishes of his official superiors. There have been reports that it was in def-

erence to pressure from that quarter, and against his own judgment, that he made his announcement in the International Medical Congress. However that may be, the Minister of Public Instruction, GOSSLER, stated, in reply to an enquiry made of him in the Prussian Diet, that Koch's wish was to publish all the details, but that, on account of the difficulty of preparation of the remedy, and the harm that might result from the use of imperfect and irresponsible imitations, he had prevailed upon Koch to defer publication of its nature, a step for which he assumed the entire responsibility.

Of the necessity of such a course probably no one can be a competent judge who is not acquainted with all the reasons which led to the decision. No one can doubt that if the method of preparing the remedy were made public, the markets of the world would soon be flooded with the products of competing manufacturers, some of whom might not be able, with the best disposition in the world, to judge as to the quality of their wares. The tests which have been made of various brands of pepsin may serve as an illustration of the varying quality of articles going under the same name. It is of the utmost importance that the remedy shall be tested in such a way as shall be conclusive in regard to its value, and the gratification of a legitimate curiosity is of very little moment in comparison. Whatever may be thought of the reasons for secrecy in this case, the responsibility for it should be placed where it belongs, and that is evidently not with Dr. Koch, but with his superior officer.

IMPORTANT PRELIMINARY WORK.

But four months intervene before the Annual Meeting of the Association at Washington. Those most interested in its welfare need not to be advised that the value of these annual meetings lies not so much in the work accomplished in General Sessions as in that which is done in the Sections. By the quality of Sectional work the real value of the Association must be estimated. By this its future success or failure will be assured.

The Association is especially fortunate in the selection of its officers which are to supervise the work in the various Sections for the coming year. In each department men of ability, and whose work in the past is a guarantee of success, are in

command. To these we look for that thorough preliminary preparation which is absolutely essential. To this end THE JOURNAL will venture a few brief suggestions:

1. To determine as nearly as may be the number of papers which can be properly presented and discussed in a given Section during the several sessions of the Annual Meeting. 2. That men specially qualified for the work be secured in sufficient number to prepare the papers which shall meet this requirement. 3. That the attention of each writer be called to the fact, that papers submitted to the Sections become the property of the Association for its exclusive use, and are not at the option of the writers, for publication elsewhere. 4. That all papers be fully completed when they are presented, and pass immediately from the readers to the Secretaries of the Section in which they are read.

The papers thus prepared and submitted will determine the value of the "Original" department of THE JOURNAL to its readers for the coming year. By these papers the status of our Association is justly to be adjudged not only by the profession at home, but also in other lands. We know that those upon whom the responsibilities rest are fully equal to their work, and we confidently anticipate that the programme for the present year will exceed any one that has gone before.

SHALL "THE JOURNAL," BE REMOVED TO WASHINGTON?

Thus far but a limited number of replies to this question have been received. It seems desirable that the reasons for and against such a movement should be fully stated. If possible the wishes of the entire membership should be known, and in the settlement of the question, the will of the majority should govern.

If possible the question should be promptly and permanently decided at the next Annual Meeting, and in such manner as not to divert the attention of the members from the important work in the Sections, nor trench upon the time allotted to them.

The views of the members upon this question should have full expression before the Annual Meeting, and with positive conviction upon that subject it need not require any considerable time to come to definite conclusions.

In the meantime let the reasons for and against removal be carefully considered, and in the order in which they may be forwarded for publication THE JOURNAL will present them to its readers.

EDITORIAL NOTES.

A COMING VACANCY IN THE U. S. A. MEDICAL DEPARTMENT.—The single colonel of staff who retires in 1891, by reason of age limitation, is Dr. Edward P. Vollum, who is stationed in New York City, and acting chief medical purveyor, pending the Senate's confirmation of his appointment last August. He was candidate for the surgeon-generalship after Dr. Baxter's death. He is a New York man with a long, active record, and is at present president of the Army Medical Board in that city. His original commission is dated May 12, 1862. He retires on September 11.

FORTY-FIVE DAYS OF FASTING.—Succi had rendered himself famous in London by a fast of forty days, which he completed in May last. Later he came to America. On November 15 he commenced a fast of forty-five days, in New York City, completing the same December 20. At the commencement of the fast his weight was 147¼ lbs., at the end of the forty-five days he had lost 42½ lbs., or nearly one pound for each day. At the conclusion, the final medical examination, his condition is reported as follows: temperature normal; pulse 62; respiration 90 (?); dynamometer 44; tongue clear, moist and steady; general condition weak; urine eight ounces in twenty-four hours; specific gravity 1.022; reaction acid, clear. Of drinks during the forty-five days he took 291 ounces of croton water; 799 ounces of mineral water, and 64 ounces of ice. Of his elixir, which is composed of morphia, cannabis indica, chloroform, sulphuric ether and alcohol, he took during that time 710 drops. His sufferings during the last few days were intense, and when the forty-five days were ended he had reached the limit of his endurance.

UNOSTENTATIOUS CHARITY.—A resident of Lowell, Mass., whose name is withheld, has pledged \$25,000 towards the new free hospital to be established there. A board of officers was elected on the 29th ult.

DEATH FOLLOWING INOCULATION FOR LUPUS.—According to the *Wiener Klinische Wochen-*

schrift, a girl 17 years of age died after an injection of two milligrams of Koch's lymph. The injection was made at 9 A.M.; at 3 P.M. the characteristic appearances were observed upon the affected portion of the face. The local manifestations were more and more pronounced. The bright red zone became more and more livid; dyspnoea and heart failure ensued and the patient died thirty-six hours after the injection.

DR. MILAN BAKER, a graduate in 1855, of the Medical Department, University, Buffalo, N. Y., and an original member of the New York State Medical Association, died at his home in Buffalo, December 29th last, aged 62 years. He was a member of the original commission which located the State asylums for the insane, and at the time of his death was one of the managers of the State insane hospital in Buffalo.

SPURIOUS KOCH'S FLUID.—It is already reported that spurious Koch's fluid is being manufactured in Berlin, and that medical men are being deceived in their effort to secure the genuine article. There hardly seems a limit to the deceptions which will doubtless be attempted in this direction, and the medical profession will need to be everywhere on the alert to protect the people from the evil to be averted, and from the frauds which unprincipled venders may seek to perpetrate.

QUARANTINE AGAINST CHOLERA.—The suggestions of Dr. J. H. Rauch, Secretary of the Illinois State Board of Health, upon this subject are timely, and should receive most careful consideration. He predicts a serious invasion of cholera, unless efficient quarantine regulations are adopted. In Abyssinia 10,000 people have died of cholera during the last six months. In India it is epidemic. It is not yet extinct in Spain. In the Asiatic provinces of Russia, in Corea and Japan, 80,000 people have recently died of this disease, and he urges that our Pacific coast be especially subject to the strictest of quarantine supervision.

UNWARRANTABLE JEALOUSY.—It seems incredible that such an intensity of hatred should be manifested on the part of German physicians as that they should seek to prevent so eminent a man as Morell Mackenzie from obtaining a reasonable supply of Koch's fluid for the purpose of

testing its alleged virtues. Medicine and the alleviation of human ills are supremely above the petty differences and jealousies of men, and the effort thus to control the use of the lymph for the gratification of petty or personal spite, is unworthy of the most degenerate member of the profession, either in Germany or elsewhere. For the good name of the profession in Berlin we sincerely hope that the charge is totally untrue.

DR. CHARCOT, who has recently finished a long series of experiments with hypnotism, gives as his opinion that not more than one person in 100,000 would be likely to be benefited by this mode of treatment.

DR. ERNEST HARDY.—*Le Progrès Médical* of September 27 contains an account of the death of this eminent scientist. He was a member of several important medical and scientific bodies and contributed many important monographs, especially those upon the physiological actions of jaborandi and strophanthus.

"CONFRATERNITE."—Under this heading *Le Progrès Médical* describes an incident occurring in the town of Fehrltorf. A citizen of the place having trouble with his foot, three physicians were called in who decided that an amputation was necessary; a Doctor Ries undertook to cure the foot without an operation, and the patient dying, he wrote upon the death certificate, "Dead from the bad treatment of the physicians." He further declared that his colleagues were ignorant of surgery. For this and the monumental death certificate he was compelled to pay 1,200 francs damages. It is only in this latter part that they do these things better in France.

THE GERMAN GOVERNMENT AND KOCH'S MATERIAL.—After going to press we received the following cable from Dr. Harold Ernst, in Berlin, under date of December 10: "The secret of making Koch's material has been turned over to, and kept by the German Government only until a thorough trial can be made. The effect in lupus and surgical tuberculosis is most striking, because the results can be seen. The most wonderful property is the selective affinity for tuberculous nidus, often making latent centres active. Pulmonary tuberculosis will have to be under observation for a long time still before permanent result is determined. The action of the material is certainly as wonderful as that of any known medicine.—*Boston Med. and Surg. Journal*.

TOPICS OF THE WEEK.

RESEARCHES ON MALARIA.

So much importance is now attached to the action of bacteria upon the system in the production of disease, that we need not apologize for placing before our readers the results of the researches of Dr. Bernardo Schiavuzzi on malaria in Pola, which seem to have culminated in the discovery of one at least of the microorganisms that are capable of inducing ague. Pola is an ancient city of Istria, on the east coast of the Adriatic, long decaying, but now again rising in importance as a naval station, built on chalk, on which is a stratum of red earth, about 9 feet thick, which is of submarine volcanic origin, and was cast up in the miocene period. Its isotherm is 14.17°C. , with wide extremes, its yearly rainfall amounts to 937 mm., whilst its physical conditions are favorable to the development of malarial fevers, which are endemic.

In the year 1866, Dr. Salisbury believed he had discovered the cause of malaria in an alga of the group of palmella, to which he gave the name of "palmella gemmascuma," and which he had found in some of the marshy districts of Ohio. In 1869, Balestra examined the waters of the Pontine marshes, and satisfied himself that an alga which he named "alga miasmatica," and which was either an oedogonium or a cladophora, was the active agent in producing ague. Salisbury grounded his belief on the circumstance that a young and healthy couple sleeping in a room with a few boxes containing this alga were attacked with malaria, whilst Balestra induced an attack in himself by smelling some water containing the alga miasmatica. Safford and Bartlett, Archer and Barzellini, severally called attention to the probability of various algae being the active agent, but only on the ground that such algae were abundant in malarial regions; and objections were raised to their statements when further investigations showed that in each instance the alga in question was abundantly present in perfectly healthy regions. In 1873 Griffini injected into the veins of dogs and rabbits the dew which he had collected in marshy grounds and paddy fields; but though the temperature of the animals rose a degree or two, the spleen remained unaffected, and health was soon restored. Lanzi and Ferrigi were led from their inquiries to think that the malarial poison was the product of some kind of vegetable decomposition; and experimenting with the mud of the marshy districts of Ostia, which they injected into the vessels of guinea-pigs, they observed a rise of temperature to 40°C. , enlargement of the spleen and liver, and the presence of pigment in these organs and in the blood. After the meeting of biologists in Kassel in 1878, Klebs and Corrado, and Tommasi-Crudeli examined by means of special apparatus the air, the water, the mud and the earth of the Campagna, and endeavored to cultivate the algae naturally present. They obtained a great number of minute bacilli with fine fibres, small rounded granules like micrococci, and other microorganisms, which they carefully cultivated; whilst they at the same time made anatomical investigations on the size of the spleen in healthy

white rabbits; then, having inoculated the animals, they arrived at the conclusion that they had discovered the malarial poison in a schizomycetous fungus, to which they gave the name of "bacillus malarie." In 1880 Tommasi-Crudeli, Cuboni, and Marchiava repeated and confirmed these observations, since they could produce an affection similar to or identical with the malarial fever with this bacillus, and because they found numerous similar bacilli together with roundish, highly refractile granules or spores in the blood. The spores were contained in large numbers in the interior of the white corpuscles. They presented lively oscillating movements, and became more numerous, whilst the bacilli were fewer, as the temperature of the animal increased. In 1881 Laveran made a special study of the pigmental bodies which are found partly free in the blood plasma of malarial patients, and partly embedded in clumps of protoplasm or in white corpuscles, and arrived at the conviction that they were parasitical elements in various stages of development and decay.

Schiavuzzi's experiments extended over several years, and consisted in obtaining pure cultures of a bacillus, which he found abundantly present in the air of Pola, a place where malaria is endemic, and which agreed in its characters with that described by Klebs and Tommasi-Crudeli. With this he infected rabbits, and in the memoir he has just published in Cohn's *Beiträge zur Biologie der Pflanzen* he gives charts of the temperature and figures copied from photographs of the bacilli he found in the animals. The bacillus is rarely present in the waters of the endemically affected district. It is aerobic, and develops on the surface of nutritive gelatine in the form of a whitish and tolerably resistant coat. Infection of this bacillus produced intermittent fever in tame white rabbits of the tertian and quotidian types, but without pernicious character in any case. It occasioned enlargement of the spleen and formation of the characteristic black pigment in the spleen and in the abdominal glands, and the blood corpuscles presented the changes shown by Marchiava and Celli to be pathognomonic of malarial infection; whilst a development of bodies exactly resembling the spores of the bacillus took place in the blood. From all these circumstances Schiavuzzi and Tommasi-Crudeli, who fathered Schiavuzzi's memoir at the meeting of the Academy dei Lincei, entertain no doubt that the bacillus malarie is the active agent in causing intermittent fever. The care with which these experiments were made is deserving of great credit. In each experiment the following details were attended to: The precise spot from which the air was obtained, with its height above the sea level; the date; the reading of the barometer and thermometer; the direction and strength of the wind; the relative moisture of the air, the actual amount of moisture it contained; the reading of the heliograph on the day when the specimen was obtained; the amount of ozone in the air; the rapidity of evaporation; and the temperature of the earth. The statements require confirmation; but the etiology of malaria may now be referred with tolerable certainty to the growth and development of a microorganism of vegetable origin in the system.—Editorial, *Lancet*.

MEDICAL CLASS IN JAPAN.

The following appears as an editorial in *The Sei-i-Kwai Medical Journal*, published monthly in Tokyo, Japan, under date of Nov. 22, 1890:

We may fairly divide the medical profession in Japan into four classes viz.: 1, *Kanpo-ka* (Chinese school), 2, *Kan-ran sellu-ka* (China-Dutch school), 3, *Seiyo-ka* (European school), 4, *Senmon-ka* (specialist).

Those who belong to Chinese school are old in age, most of them over 50 years, and got the license by virtue of professional tradition from their forefathers; their knowledge consists of reading Chinese pseudo-physics; they have never seen the inside of human subject nor use any instrument for the aids of diagnosis. Their medicines compose of herbs, barks, and roots of various plants which are always given as decoction and prescriptions of some coarse minerals are seldom used.

Their numbers at present overrate than the other classes and show figures of at least 20,000 out of 40,000 whole number, but their numbers are decreasing year by year as they either die or retire on account of their old age, as were stated before, and they never have chance to grow up, because the present system of granting licentiate is strict and candidates must pass a hard examination. Those belonging to China-Dutch school are mostly over middle age; they have studied Chinese medicine, but the event of intercourse with Dutch nationality provoked them to study Dutch medicine as well; in those days they could not read Dutch books, and those very few people who could hardly understand them endeavored to translate them into Japanese, by means of that, most of this class possessed an outline of European medicine, but their knowledge is quite stale nowadays, having passed 30 to 35 years.

Their numbers are about 10,000 and their licenses were granted exactly in similar way as that of Chinese class. They treat patients much in similar manner as Chinese school, but often use mixtures, pills or powders which contain one or more drugs, such as opium, calomel, iron, soda, assafoetida, aloe, santonine, etc. Indeed we owe much the progress of European medicine in Japan to encouragement of certain persons in this class.

Moreover certain number of this class followed the progress up to present by their indefatigable energy, and they hold high reputations and respects both in private and public works.

The third class belong to European school (*Seiyo-ka*); they have undergone a good education either in university, colleges or schools properly instituted under the inspection of the government, their numbers do not exceed more than 5,000 including those who have studied medicine in Europe or America, indeed the reformation of Japanese medicine is the task of them, for this object they join to constitute medical societies and respective society endeavors to publish their journal. The chairs of university, and of colleges are occupied by the members of this class, and the surgeons of Imperial Navy and Army are chosen amongst this class, indeed the important situations both in public and private are entirely held by them. Instead of their honors and reputations they are burdened with a heavy obligation that is for the

welfare of future medicine of Japan, to meet these obligations, for instance they started some years ago the Private Sanitary Association of Japan, and carried their works to a great satisfaction both to laymen as well as the professional; moreover the principal leaders in Tokyo caused themselves to start a medical association for the object of which they have to gather all the medical brethren in every province of the Empire and to exchange their knowledges.

The endeavor of them brought this scheme to born in April last under the name of the First Japanese Medical Association, the meeting was held in Tokyo for a week and was closed with every success. It was hoped to hold this association in future once every four years.

The 4th class belong to specialist, viz.: oculist, obstetrician, dentist, bonesetter, vaccinator, etc. Some of them are well educated under the new school, but most of them follow the profession by the tradition and could not be called specialist under the proper sense.

THE RISKS OF KOCH'S TREATMENT.

In the very interesting communication from our Special Commissioner at Berlin reference is made to the dangerous symptoms which may attend the use of injections with Professor Koch's liquid; and although he explains the fatality in some of the fatal cases to be due to the ordinary course of the disease under treatment, there can be little doubt that in a few regrettable instances there has been evidence of disastrous results. The fact is, the profession have been placed in possession of a most powerful poison, and that as yet experience of its effects—which, like all poisons, vary in individuals according to their special idiosyncrasies—is so small as to necessitate the utmost cautious employment of it; this, too, quite apart from cases of pulmonary and laryngeal tubercle, where the local reaction set up by it may of itself produce alarming and dangerous symptoms. Therefore we endorse fully our correspondent's view as to this being an agent (and it is still to be proved that its action is curative) which should not be employed in general practice, but only under circumstances admitting of the strictest continuous medical surveillance. A like conclusion is stated in the excellent report drawn up by Drs. Saundby, Simon, and Barling (*Birmingham Medical Review*, December), who urge the greatest circumspection in dosage and conditions of administration. We believe, for example, that it is rash to commence the treatment of lupus with as much as 0.01 gram., as recommended by Professor Koch, the severity of the local and general reaction being in many cases so extreme.—*Lancet*.

L'UNIVERS MÉDICAL.

A new journal, with the title *L'Univers Médical*, is about to appear in Paris under the editorship of Dr. Séxéno, a pupil of Dr. Apostoli's. It is understood to be an outcome of the Berlin Congress, and will have for its object the promotion of professional solidarity among medical men of all countries, and the furtherance of international coöperation in matters of hygienic reform.

PRACTICAL NOTES.

TRENDELENBERG'S FLEXIBLE DRESSING.

Prof. Trendelenberg has been using at his clinic a gelatin paste, recommended by Unna, that is designed to be substituted in those cases where flexible collodion or india-rubber solutions have formerly been employed. It will hold dressings in place while permitting free motion of the parts. It is not friable nor very stiff, and is not so adherent to the cuticle as to interfere with the excretory functions of the skin. It therefore does not cause the peeling off of the upper layers of the epidermis, upon being removed, and the tendency to eczema in consequence. It is prepared in two degrees of consistence: the thick paste contains gelatin, glycerine and water each thirty parts, with oxide of zinc ten parts. The thin paste has gelatin twenty parts, glycerine thirty, water forty, with oxide of zinc ten parts. Heat is necessary when the pastes are compounded; it is also needed to liquefy them when they are used. The pastes are readily removed with warm water.

ICHTHYOL IN GYNÆCOLOGY.

Ichthylol is strongly recommended by Dr. Freund in the treatment of inflammatory diseases of the female genital organs. Its action is superior to that of all other remedies hitherto in use. Locally, it acts as an antiseptic and analgesic; internally, it improves the general health, increases appetite, improves digestion, and regulates the action of the bowels. Dr. Freund has treated with success cases of chronic parametritis, chronic and sub-acute perimetritis, chronic metritis, salpingitis, erosions of the cervix, cicatrices of the vagina, and prurigo of the external genitals. He prescribes its internal and local use simultaneously.—*L'Union Médicale*.

TREATMENT OF HÆMORRHOIDS BY COLD WATER.

The treatment by very cold water of hæmorrhoids is advocated anew by Dr. Alvin, in *La Semaine Médicale*. His method is the simple one of applying the water to the anal region by means of a sponge, but the method will not succeed unless the sponging is kept up for a number of days. If this is done the growths will diminish in size, and there will be a general relief of the ordinary unpleasant symptoms, such as pain, tenesmus, pruritus and spasm of the sphincter muscle of the anus, when provoked by congested hæmorrhoids. The systematic use of cold water directly after the daily evacuation, and again at bedtime should be the initial treatment. An enema of cold water should be used once or twice daily, if internal hæmorrhoids ex-

ist. These internal growths tend early to yield under this treatment unless they have attained to an excessive size, or have been strangulated by reason of frequent inflammations and systematic neglect. The neglected cases will, as a matter of course, require a longer continuance of the water treatment, but the number which in the end will demand surgical interference will be small.

UNCONTROLLABLE VOMITING OF PREGNANCY.

Drs. Henske (*St. Louis Clinique and Archives of Gynecology*, August, 1890) and Gottschalk have found menthol efficacious in stopping the uncontrollable vomiting of pregnancy. Fifteen grains are dissolved in five ounces of distilled water, to which five drachms of rectified spirit are added. A tablespoonful of this mixture is given hourly till the vomiting ceases. The editor of the *Archives of Gynecology* states that he has had an opportunity of trying the efficacy of this mixture. Vomiting ceased after the fourth tablespoonful. Dr. Gottschalk reports two cases with similar results.—*Brit. Med. Journal*.

DRY CUPPING FOR INFANTILE CONVULSIONS.

Dr. T. J. Heard says: In 19 cases out of 20, infantile spasms or convulsions may be arrested in one minute by the application of one or two dry cups on the back from the seventh cervical to the first dorsal vertebra. This will secure a remission, during which emetics, purgatives, or anything else that indications require, may be used.—*N. Y. Med. Times*.

THE ANTISEPTIC PROPERTIES OF CHLOROFORM.

Kirchner, in the *Zeitschrift für Hygiene*, writes that he has found that small quantities of chloroform act destructively and promptly upon the bacilli of cholera and typhoid fever. For this reason he would recommend that, during the epidemic prevalence of these diseases, this drug should be added to drinking water and milk, in the proportion of 1 or 2 per cent. He believes that this precautionary measure will be entirely free from danger as well as inexpensive. The addition of chloroform to lotions, used in surgical practice, would be useful, but more especially in mouth-washes and gargles, for the reason that the buccal cavities, even of healthy persons, often contain pathogenic microorganisms.

EPISTAXIS.

Dr. Jonathan Hutchinson recommends for the treatment of epistaxis the plunging of the feet and hands of the patient into water as hot as can be borne. He declares that the most rebellious cases have never resisted this mode of treatment.—*Boston Medical and Surgical Journal*.

SOCIETY PROCEEDINGS.

The Harlem Medical Association.

*Third Regular Meeting, Session 1890-91, held
Wednesday, Dec. 3, at 5 W. 125th street,
New York.*

E. FRIDENBURG, M.D., PRESIDENT, IN THE
CHAIR.

DR. E. L. COCKS presented a patient, S., male, 30 years, truck driver, whom he first saw May 11, 1889. Family history negative. Complained of numb feeling over right eye including the temporal and molar regions; also tingling sensations starting just in front of the right ear, running across the nose and including the right half of the upper lip. He did not feel the eyelid on winking nor a piece of cotton passed over the cornea. The eye protruded so that it was on a line with the nasal bone. He first noticed that the right eye was growing larger three months previous to his first visit. Could not close the lid over the right eye. On pressing over this eye backwards and slightly downwards a tumor as large as a hazel nut could be felt. It was immovable and quite hard. Its depth could not be determined. The cornea was clear but anæsthetic. The pupil was fully dilated but did not respond to light. Vision in right eye entirely absent. Left eye $\frac{2}{3}$. The ophthalmoscope showed the veins much enlarged but the arteries smaller. The optic nerve atrophied. He complained of nocturnal headaches. Six months previous to his first visit his hair commenced to fall out and he had sore throat. He denies all knowledge of syphilis, and claims never to have had an eruption of any kind. On examination, inguinal and cervical glands were enlarged and a syphilitic ulcer was found on the leg. The tibia is painful on pressure. No signs of initial lesion. Diagnosis, gumma of orbit pressing on optic nerve and vessels. Mixed treatment instituted, pushing the iodide in hopes of preventing a complete degeneration of the optic nerve. After three weeks of treatment headache better, appetite good, and he now feels the eyelid moving, also the cotton passed over the cornea. The vessels are now normal. The exophthalmia is much less. The tumor is sensibly melting away. By July 1 the eye resumed its normal position. There was a small ulcer of the cornea which disappeared under treatment with hot water and atropine. The sight has not returned. The nerve is in the same condition of atrophy as at the beginning of treatment. The patient does not know the exact period when his sight became lost in the right eye, but states his vision was good before the time when his hair began to fall out. His business did not require accurate vision; if it had he would have made the discov-

ery earlier. Had the patient been placed under proper treatment when the vision first began to fail it might have been restored. But, under the circumstances, the result of treatment is good.

DR. MAYER inquired if there were any evidences of syphilis in the throat; also, if the initial lesion had existed on the lip or tongue?

DR. E. L. COCKS replied there had been mucous patches in the mouth but no evidences of the initial lesion.

DR. R. VAN SANTVOORD stated that this case illustrated the fact, so often noted, that while the growths due to syphilis can be removed by proper treatment, the injury done to the nervous structures by these masses cannot be so easily remedied.

DR. G. H. COCKS thought the destruction of utility of the optic nerve was due to pressure. He spoke of two cases of gumma of the iris coming under his observation which yielded to treatment so far as the gumma was concerned, but the result was that the iris was immovable.

DR. E. FRIDENBERG called attention to the fact that the principle point of interest was that the gumma was located in the orbit as well as its large size. This condition is rare. That the cornea is now clear is a good result. Another interesting point is that the patient was not aware of his loss of vision. Frequently patients have imperfect vision, or perhaps no vision in one eye and are made aware of it only by some accident. A case came under his notice recently where the patient had been assaulted and the eye injured. He came to New York for expert examination before beginning a suit for damages for loss of sight. Examination proved that the lens was dislocated and there were other signs of long-standing lesions, certainly antedating the injury.

DR. C. B. MEDING suggested the possibility of a specific local neuritis independent of the pressure caused by the gumma. He believed it possible for the nerve to recover after the pressure, as all nerves are possessed of great vitality.

DR. E. L. COCKS thought it strange that one particular nerve should become the seat of neuritis while the other nerves of the orbit escaped.

DR. FRIDENBERG said the suggestion of Dr. Meding had engaged the attention of oculists, because it was well known that neuritis was often the result of small tumors in the brain. However, he did not think the case under consideration required that explanation.

DR. W. F. MARTIN presented photographs illustrating the following case: A boy, æt. 16, first came under treatment in June, 1890, suffering from alopecia areata over a considerable space. Galvanism was employed three times a week for six weeks with no improvement. Small fly blisters were then employed, three at a time,

to remove the epidermis. The electrodes were now dipped into a bichlor. sol. 1-3,000, and galvanism employed. From time to time the position of the blisters was changed, but were kept near the denuded area. After ten days a very fine growth of hair began to appear, but only where the blisters had been situated. This growth gradually became more marked and abundant. In three months the case was entirely cured. It is remarkable that in ordinary cases the hair begins to grow from the periphery, but in this case it began in the centre, which was probably due to the treatment.

DR. E. L. COCKS had seen a case in Dr. Buckley's clinic which had existed five months. The patient went to bed suffering from a headache, and, on rising in the morning found two bald spots on the scalp which were also anæsthetic. Carbolic washes had been used and the hair had appeared on one spot but not on the other.

DR. MEDING called attention to the fact that one theory of the cause of alopecia was that it was due to the accumulation of dandruff. It was commonly known that solutions of the bichloride of mercury were useful in this condition. Perhaps the solution had more to do with the cure of Dr. Martin's case than the galvanism.

DR. KNICKERBOCKER inquired of Dr. Martin how he explained the fact that the hair came back over the whole surface, whereas the bichloride solution had only been applied to limited areas?

DR. MARTIN had no explanation to offer, he only knew that the hair commenced to grow only on the surfaces denuded by the blisters and then gradually spread.

DR. G. H. COCKS presented to the Association a patient 26 years old, a fireman on the elevated railroad. On November 15 last, while at his work, he noticed a very peculiar numb feeling extending over the entire left side of his body. This feeling lasted only a very few minutes. One week later, while working on his engine, he felt a severe pain his left eye, as if a coal or spark had entered it. The muscles of the jaw became contracted and he fell forward unconscious on the boiler, receiving superficial burns on the wrists of both hands. The engineer did not notice any convulsions or frothing of the mouth. He was unconscious about half an hour. The important question is as to diagnosis, and, if these attacks are likely to recur. He is in line of promotion, but does not feel disposed to become an engineer if these attacks are to be repeated.

DR. VAN SANTVOORD was inclined to consider the case one of epilepsy having the usual aura and loss of consciousness. There may have been convulsive movements present although these were not recognized at the time.

DR. MAYER was inclined to leave the diagnosis open to see if there is a return of the attacks. In

the meantime he did not consider it proper for the patient to assume a perilous position.

DR. MALLESON inquired if the urine had been examined?

DR. COCKS replied that he regretted that he had not examined it. He had carefully examined the heart and found that normal.

DR. VAN SANTVOORD had a case of convulsions occurring in a woman suffering from albuminuria of pregnancy. The albumen was not found just before or after the attack. It appeared some twenty-four hours after the convulsive attack.

DR. FRIDENBERG believed it impossible to make a positive diagnosis in the case under consideration at the present time. We must wait until the case develops. It is possible for an attack of this character to be due to some peripheral irritation. He related the instance of his brother, a young man 23 years old, who had two attacks of loss of consciousness with some convulsive movements lasting a few minutes. Vomiting followed. These seizures were due to the eruption of a wisdom tooth.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Sulphichthyolic Acid and its Preparations in the Treatment of Inflammatory Diseases of Women—The Leprosy Commission in India—Spasmodic Dysmenorrhœa—Disinfection of Infected Premises—Miscellaneous Gleanings.

When ichthylol was first introduced into therapy it made a very considerable reputation, and was found by experiment to have a contractile influence upon the vascular system so that hyperæmia, inflammation and pain in any situation were relieved by its application. The disorders caused by or associated with dilation of the vascular system or anomalies of the circulation being so numerous, the remedy ran some risk of being regarded as put forward as a panacea. This was even more the case when the substance began to be used internally against organic affections or disordered functions, which could be regarded as due to or intimately connected with a dilated vascular condition. Quite a new direction for the display of the peculiar properties of sulphichthyolic acid and its preparations have been tried and it is now employed internally, not only in various skin affections, but also in the inflammatory diseases of women. Against these latter it is found to be generally more effective than any remedies previously in use. The results are found to be extraordinarily satisfactory as far as pain soothing and dispersing properties go. As regards methods of applica-

tion, that generally found sufficient externally was a 10 per cent. solution in glycerine, sometimes suppositories or ointment of ichthyol is also used. Internally the remedy is given in pills. Out of one hundred recent cases, thirty-four were completely cured, thirty-nine were considerably improved, and fifteen underwent a more or less pronounced change for the better. In only twelve out of the whole number was ichthyol without success. The remedy has been found to be convenient in application and favorable in action.

The members of the Leprosy Commission, consisting of Dr. G. A. Buckmaster, Radcliff Fellow of Magdalen College, Oxford, Dr. A. Kanthak, of St. Bartholomew's Hospital, and Dr. B. N. Rake, Government Medical Officer of the Leper Asylum, Trinidad, have arrived in Bombay and will at once commence their work. The interest awakened in India by this commission is likely to extend to every place in the British possessions where this malady exists. The final report is to be subjected to a severe scientific analysis. The commission has been welcomed in India with every demonstration of approval and sympathy.

Dr. Champneys, in his lecture on Painful Menstruation, delivered before the Harveian Society, considered spasmodic dysmenorrhœa to be the only real dysmenorrhœa. The mechanical causes of the complaint he summarized under the heads of the theory of flexion, stenosis, and chronic congestion produced by flexion, but he thought this theory was inadequate. With regard to the question as to whether flexions were essentially associated with dysmenorrhœa, a large number of examinations made by observers in virgins, multiparæ and mothers, showed conclusively that ante flexion was not the usual cause of spasmodic dysmenorrhœa. As to treatment, he thought that division of the os led to an alleviation of the pain by setting at rest the irritated uterine fibres. Pregnancy, followed by parturition, appeared to be the physiological remedy. Hygienic measures, with plenty of Epsom salts, was the best prophylactic treatment. Division of the external os was always useless in such cases, but incision of the internal os, although it was a highly dangerous proceeding, was sometimes attended with good results, as was also dilatation of the cervix, when this operation was performed midway between the menstrual periods.

Among the most useful provisions of the Infectious Diseases (Prevention) Act of last session, are those relating to disinfection of infected premises. Hitherto the officers of sanitary bodies have been hampered in their endeavors to check the spread of infectious sickness among the poorer sections of the community by reason of the difficulties attending the adequate disinfection of living-rooms, it may be already over-crowded.

But power is now placed in the hands of all local sanitary bodies who choose to use it, of providing members of a family in which infectious disease has appeared, with temporary shelter or house accommodation, when they have been compelled to leave their dwelling for purposes of disinfection by the sanitary authority. Up to now such expenditure has not been a legal charge upon the district.

The refusal to admit women to medical examinations at Oxford gives just now somewhat increased interest to the signal success which the students of the London School of Medicine for Women have attained at the recent examination at the University of London. There were nine female candidates for the M.B. degree, and all have passed—five in the first and four in the second division; of the sixty male candidates fifty-two were successful. Among the medical schools University College and Guy's Hospital take the first place, each having eleven successful candidates. Next come St. Bartholomew's with ten, the London Hospital with seven, and King's College with six successful candidates. The total number of M.B. degrees granted by the London University this year is eighty, the largest number yet attained. Last year the number was sixty-four. The increase has been made notwithstanding complaints from some of the medical schools with respect to the severity of the requirements of the University. It is stated that the scheme of reconstitution, of which the Senate has resumed the consideration, does not progress very favorably, and gives no great promise of a satisfactory issue.

Mr. Lennox Browne has had under his charge a curious case, which must have troubled various physicians and surgeons. A middle-aged female patient was sent to him from the Provinces, and from her debilitated condition the supposition was that her malady was either phthisis or laryngeal cancer. The woman was tall and large boned, yet her weight was only 90 pounds. Mr. Browne ascertained that the real cause of her emaciation was the lodgement of a plate of artificial teeth, which had become firmly imbedded in the larynx, and had there remained twenty-two months. The patient remembered that one night she had been seized with a violent fit of coughing, and that her artificial teeth disappeared somehow during the paroxysms. Difficulty of breathing and pain in swallowing resulted from that very day. The obstacle having been dislodged, the patient has speedily recovered.

At the first meeting of the committee on hypnotism the following headings were decided upon as a basis for carrying out investigations: 1. The Nature of Hypnotism and its Nervous and Mental Relations. 2. Its General or Limited Applicability as a Therapeutic Agent in different classes of disease. 3. The Degree and Mode of

its Influence on Morbid Conditions. 4. Its Dangers and the Necessary Safeguards. Dr. Needham, the President of the Section of Psychology at the annual meeting of the Association in Birmingham, was unanimously elected Chairman of the Committee.

At one of the London Hospitals antiseptic sponges are prepared by plunging thoroughly clean and bleached sponges in a liquid composed of carbolic acid 10 grams, alcohol at 90° 20 grams, distilled water 100 grams, and essence of lavender 30 drops. After being left in this liquid for a few days they are washed with distilled water, which carries off the excess of carbolic acid. Very great antiseptic powers are claimed for the essence of lavender, which is not added merely for its agreeable odor.

Dr. Thorne Thorne will deliver the Milroy Lectures on Public Health at the Royal College of Physicians on February 17, 19, 24, and 26. The subject selected being Diphtheria, its Natural History and Prevention. G. O. M.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

New York Physicians and the Koch Lymph—Dr. J. H. Tyndale and the Treatment of Tuberculosis by Inoculation—Statistics of Phthisis and Pneumonia—Dr. Oliver Wendell Holmes on Academies—The State Commission on Lunacy—A History of Legislation for the Insane in the State of New York—Public Baths for Winter Use—Miscellaneous Gleanings.

During the past month quite a number of New York physicians, the most of them acting as representatives of medical schools and hospitals, have gone to Berlin to make a personal study of the inoculation method of Koch. The first consignments here of "lymph" from Germany were received about the same time at the Hospital for Ruptured and Crippled, St. Luke's Hospital and Mount Sinai Hospital, and the physicians of these institutions have been assiduously experimenting with it upon appropriate cases. At the first-named hospital the patients treated have been principally children suffering from spinal caries, hip-joint disease, and other similar affections.

In connection with the subject of the treatment of tuberculosis by inoculation, it may be of interest to mention that at the November meeting of the New York County Medical Association, Dr. J. H. Boldt called attention to the work in this direction which has been accomplished by one of the members of the Association, Dr. J. Hilgard Tyndale. For a number of years, he said, Dr. Tyndale has been pursuing experimental investi-

gations in the same line as Koch, and during the past year and a half he has met with excellent results from the inoculation of tuberculous patients with bovine virus diluted in a saline solution. Among the results noted have been the following: Cough diminished very rapidly, hectic disappeared, the bacilli decreased in the sputa, the weight increased and the general health improved. As in the case of Koch's inoculations, the constitutional symptoms immediately resulting from inoculation were quite severe. It is expected that Dr. Tyndale will present a detailed account of his experiments and their results to the Association at an early day.

In view of the special interest now attaching to the matter of consumption, Dr. John T. Nagle, of the Bureau of Vital Statistics of the Health Department, has prepared a table which shows the number of deaths from phthisis and from pneumonia occurring in this city during the last ten years; the deaths from both causes being given for the reason that cases of phthisis sometimes terminate in pneumonia, and many cases of pneumonia are of a chronic character, although this is not always stated in the death certificates. This table is as follows:

	Deaths from Phthisis.	Deaths from Pneumonia.	Deaths from all Causes.
1880	4,706	2,822	31,937
1881	5,312	3,261	38,624
1882	5,247	3,471	37,924
1883	5,290	3,409	34,011
1884	5,235	3,159	35,034
1885	5,196	3,649	35,682
1886	5,477	3,657	37,351
1887	5,260	3,707	38,933
1888	5,260	4,288	40,175
1889	5,179	4,075	39,697
Total	52,162	35,499	369,350

The table shows that the percentage of the deaths from phthisis to the total deaths in the city in these ten years was 14.12.

There can be no question that the most attractive feature of the ceremonies recently held at the formal opening of the new building of the Academy, was the reading of the characteristic and noble letter sent by Dr. Oliver Wendell Holmes, of Boston, who was unable to be present in person on this occasion. It was, in part, as follows: "Academies have been too often thought of as places of honorable retirement and dignified ease—roosts where emeritus professors and effete men of letters, once cocks of the walk, could sit in quiet rows, while the fighting, the clucking and the crowing were going on beneath them. . . . But the academy which fulfils its true functions is a working body. It deals with living subjects; it handles unsettled questions; it sets tasks for its members and furnishes, so far as it can, the appliances for their prosecution; it offers rewards for meritorious performances and sits in judgment on the efforts of aspirants for distinction. It fur-

nishes the nearest approach we can expect to a fixed standard of excellence by which the work of new hands and the new work of old hands can be judged. It is a barrier, a breakwater, against the rush of false pretensions which are constantly attempting to find their way into public confidence.

"Nowhere is such a defense more needed than in the sciences and arts which deal with the health of the community. The public is so ready, so eager to be deceived, and the traders in deception are so willing, so hungry to deceive those who will listen to them, that it needs a solid wall of resistance, a close, united phalanx of men of recognized sense, knowledge and character to stand against them. The various forms of what I will venture to christen as pseudo-pathology and pseudo-therapy—though they are known to the public by other names—can never loosen the intelligent, thoroughbred physician, or the enlightened members of society, so long as the best heads of the profession are banded together in a noble institution like this Academy. We look to this great and able body of men to guard the sacred avenues to the temple of science against all worshippers of idols. The medical profession will always have to fight against the claims of wrong-headed and too often dishonest individuals, and 'schools,' as they call themselves. A portion of every community will always run after the false prophets. There are a certain number of squinting brains, as there are of squinting eyes, among every thousand of our population. There will always be a corresponding number of persons calling themselves physicians ready to make a living out of them. Long may it be before the wholesome barriers are weakened that separate the thoroughbred and truly scientific practitioner from the plausible pretender with his pseudo-pathology and his pseudo-therapy."

It would certainly seem to be well that some of our New Code friends among the officials as well as Fellows of the Academy, who have done all in their power to break down these "wholesome barriers," should ponder deeply these wise counsels of the genial and venerable Autocrat.

The State Commission in Lunacy has adopted two orders which it is believed will be of considerable benefit to the welfare of the patients in the State hospitals for the insane. The first provides that each insane patient shall be permitted to write to some friend or relative at least every two weeks, and, in the case of patients unable for any reason to write, the medical superintendent of the hospital must direct some proper person to write for such patients at suitable intervals, if they so desire. All letters of insane patients which are detained must be forwarded to the Commission, accompanied by a statement of the reasons for such detention; and all letters addressed to State officers, judges of courts of record, and district attorneys, must be immediately forwarded without examination.

The second order states that, in view of a custom which has long prevailed of permitting patients to temporarily leave institutions for the insane to visit friends, or to go out "on trial" for an indefinite period, and it also having been made to appear that due diligence has not always been exercised to ascertain the whereabouts of insane patients who have escaped, and to promptly secure their return, and as in cases where long intervals elapse between the date of parole or escape and the return of patients to an institution, the possibility may arise of their being reconfined when not insane by reason of their recovery during such interval, it is ordered that no insane patient, while in the custody of an institution, be permitted to go upon parole who, in the judgment of the medical superintendent, is dangerous, either to himself or others; that no parole be granted for a longer period than thirty days; that upon the escape of a patient prompt and vigorous measures be taken to secure his return; that a patient who has been paroled or who has escaped, if not returned to the institution by the thirtieth day thereafter, must be discharged from the books of the institution upon that day, and a notice of such discharge must be forwarded to the Commission; and that such patient must not be readmitted except upon a new medical certificate of lunacy, the cost of which (except in the case of a private institution, by special agreement), must be borne by the institution.

In view of efforts which are now being made by certain interested parties to bring to bear such influence upon the State Legislature as will render null and void, as far as possible, the beneficent provisions of the act establishing State care for the insane poor passed at its last session, an able writer in *Utica* has prepared an interesting history of legislation for the insane in this State, and the opposition which the friends of reform have had to encounter during the last quarter of a century. From this it appears that twenty-five years ago the Legislature passed an act little less than revolutionary as far as the preconceived ideas of many were concerned, which had for its object the freeing of the insane poor from the thralldom of the brutal and ignorant keepers of the county almshouses. The passage of this act was the culmination of a fierce struggle between the friends of humanity and intelligence on the one side, and those of ignorance, viciousness and cupidity on the other.

It is worthy of note, however, that the measure was opposed by one man of great eminence as an alienist, who for many years was Superintendent of the State Asylum at *Utica*, and who received the high honor of being made the second President of the New York State Medical Association, the late Dr. John P. Gray. He did so not because he was hostile to a higher ideal of treatment for the insane poor, but because he contended that

the act was based upon a wrong theory, for the reason that it confirmed a policy of the State which he regarded as highly detrimental, namely: that which declared that after a certain length of time or under certain circumstances insanity was incurable, and provided that the insane poor, after a short period of treatment—usually less than two years—might be sent to the asylum proposed to be established under the act and cared for as "chronic insane." Dr. Gray did not live along to see the Legislature of the State come to his way of thinking; but it is gratifying to those who hold his memory dear that this brilliant, accomplished and humane man was nearly twenty-five years in advance of his contemporaries on a question involving such profound human sympathies.

This act provided for the establishment of a State Asylum for the Chronic Insane, and that all of the so called chronic insane in the poorhouses at that time should be transferred to it as soon as the buildings were completed; but the men who profited by the care of these individuals soon showed that they were not to be so easily deprived of their spoils. With great cunning they changed their tactics, and under the guise of patriotism and unselfish desire to relieve the taxpayer, they defeated from year to year the passage of appropriations for the enlargement of the Willard Asylum for Chronic Insane. After a few years of such tactics they came before the Legislature with statements like the following: "Now, you see that this asylum will not be enlarged rapidly enough to accommodate all the insane as fast as they ought to be provided for. We propose that you give these county people another chance. They mean well. These insane poor live in their midst, and they are tenderly attached to them. They desire that their friends shall have the opportunity of frequently visiting them, and it is wicked to remove them farther from their homes. Now, why not provide a scheme whereby certain of the 'good' counties can be exempted from the operation of this statute so long as they care for these poor people properly? You can at least try them, and if you find that they are not honorably living up to their promises, then the exemptions can be revoked. This plan will relieve the State and at the same time will satisfy the counties."

This sophistry prevailed, and the proposed plan was carried out. Much that had been gained was lost. The principle ostensibly contended for was practically abrogated, and the old abuses of the system of county care were rapidly revived. The exemptions continued to be granted until twenty counties were relieved from the necessity of sending their chronic insane to the Willard State Asylum; and for many years the evils attendant upon the confinement of insane patients in local poorhouses, with utterly inadequate medical care, continued unabated. About four years ago, however, the State Charities Aid Society turned its

attention to the condition of the insane in the county almshouses and in the so-called county asylums of the State, and the result of its investigations was to instigate prompt measures for the remedying of this great abuse once more. With this end in view legislative action was sought, and the heroic efforts of this philanthropic organization, backed by the press and by numerous medical societies, as well as the great mass of the medical profession, are now well known. Each winter up to 1890 these efforts were defeated by a most vicious combination of meanness, greed and petty politics; but in 1889 the Society came nearly to the point of success, its bill providing for State care of the insane poor being defeated by only a few votes.

At this juncture another potent factor was brought forward, namely: the State Commission in Lunacy, a central board endowed with ample powers, which was created in 1889, after a ten years' struggle in the Legislature by the advocates of such a commission. The first report of the Commission, with Dr. Carlos F. MacDonald, a physician with twenty years' asylum experience, at its head, fully confirmed all that the State Charities Aid Society had previously reported in regard to the disgraceful condition of the insane poor in the various county institutions; and it was no doubt largely due to this that the act now in force was passed last winter. This act, it will be remembered, provides for the care in State Hospitals of all the insane poor, including both acute and chronic cases, in the State, with the exception of New York, Kings and Monroe Counties. For the first time in the history of the State it is legally recognized that the insane are wards of the State; and the act also recognizes the principle that insanity is a disease, and as such is amenable to treatment like other diseases.

As in 1865, so in 1890, the friends of the county poorhouses and asylums, with a brazen effrontery, are at work to undo as far as possible the good that has been accomplished; but they are not very consistent in their talk. They insist that they want to do nothing more than care for what they are pleased to term the chronic or incurable insane, and yet in the same breath they state—an assertion not very creditable to their vaunted intelligence—that they cure more of these in their local institutions, and it must be remembered, without any appliances or any medical skill worthy the name, than the State hospitals provided with all the most approved modern facilities for the treatment of the insane. Their plan of campaign is being rapidly arranged. Thus, the Board of Supervisors of one of the counties in the central part of the State at a recent session issued a circular calling upon the similar boards of other counties to aid them in the movement, and to ask for the repeal, and failing in that, the modification of the new law

establishing State care for the insane poor. By the term modification it is not clearly shown what is meant, but it is intimated that the old tactics of 1865 are to be again employed, and that an effort is to be made to exempt certain of the "good" counties from the operation of the statute, and, if this should fail, to defeat all appropriations for carrying out its provisions. It is a fact that the county authorities, now that this act has been passed, decline to take any steps whatever towards bettering the condition of the insane poor still remaining under their charge. Now they propose to prevent the appropriation of money for their removal, and if they are successful the result can only be that the condition of these people, bad as it is now, will grow worse.

A curious feature of this movement is that the whole contention is over only about one-fourth of the insane poor of the counties of the State exclusive of New York, Kings and Monroe Counties. In the other fifty-seven counties, there are, according to the report of the Commission in Lunacy, considerably less than eight thousand people of this class. Over five thousand of these patients are now provided for in the State hospitals, so that the effort is directed to preventing less than one-fourth receiving the same care and treatment as the other three-fourths; the ostensible pretext for this being that the one-fourth are incurable insane, have been declared so by statute, by lapse of time, and by the opinions of the superintendents! By the 1st of October, 1891, with the appropriations which have already been made by the legislature, it is estimated that the number of insane poor still left unprovided for in the State hospitals will not exceed 1,200.

The subject of public baths, for winter as well as summer use, is just now receiving considerable attention, especially in view of the fact that many of the city's free summer baths along the Hudson and East Rivers are adjacent to the mouths of sewers and in consequence endanger, to a greater or less extent, the health of the bathers. At a recent meeting of the Section on Hygiene, Public Health and State Medicine, of the New York Academy of Medicine, Dr. Simon Baruch, who has given much attention the subject, read a paper entitled "A Study of the Public Baths, together with an Inexpensive Method for their Hygienic Utilization," and in it he proposed a plan for the establishment of public shower baths, such as are now in use in Berlin and Vienna. Acting on the suggestions of Dr. Baruch, the Society for Improving the Condition of the Poor have determined to erect on a site in the midst of a down-town crowded tenement district which has been offered them by the City Mission and Tract Society, a two-story building, 27x61 feet, in which it is proposed to have a reading-room with an open fire-place and twenty-

four large apartments for bathers. Only shower or spray baths will be provided, these being believed to be the most efficient for the preservation of health; and each apartment is to have a subdivision to be used as a dressing room. Tickets entitling the holder to a bath and the use of soap and towels, will be sold for five cents to those able to pay for them, and given free to others, and hot coffee will be given to those who desire it on leaving the bath during the winter months. It is estimated that one thousand persons can bathe each day, and on three days of the week the building will be reserved exclusively for females.

Football has never been so strongly and so brilliantly played in this country as in the great games between Harvard and Yale, and Yale and Princeton during the past month; and, better than this, these games have satisfactorily proved that football can be a gentlemanly game and not the brutal exhibition of prize-ring methods that have so often disgraced it in the past. It is well that the game has achieved that character with the general technical improvement that is manifested in the way in which it is played; and, in fact, football has now taken a place in the front ranks of athletic sports, both as regards the character of the young men who engage in it, the perfection of skill displayed in the playing, and the popular interest manifested in it.

The women of New York are determined not to let their London sisters surpass them in zeal for the support of the hospitals, and while they may perhaps never adopt the plan of street collections so popular in that city, where even ladies of the highest social position do no think it beneath their dignity to charge themselves with the care of a sidewalk collection stand on "Hospital Day," they have this year organized a Women's Auxiliary of the Hospital Saturday and Sunday Association by means of which they hope to materially increase the amount of the annual public collection for the hospitals. Their special object is to carry out the work of the charity more thoroughly than ever before in all branches of the retail trade, and for this purpose eighteen different committees of ladies have been appointed.

A young man recently arrested here on the charge of theft adopted a very clever ruse for making his escape. On arriving at the station house he stated that he had taken a large dose of laudanum, and under the circumstances an ambulance call was sent out. The ambulance surgeon, on his arrival, thought it would be advisable to make use of the stomach-pump, and on asking for some hot water, the two officers in charge of the prisoner left him to get it from the stove. No sooner were their backs turned, however, than the agile prisoner dashed out through

the back door, which chanced to be open, and before the astonished officers had recovered their senses he had climbed over the wall of the yard and made good his escape.

P. B. P.

SPECIAL CORRESPONDENCE.

Shall The Journal be Removed to Washington?

To the Editor:—Anent the question of removing THE JOURNAL, I would vote for its going to Louisville, Ky., because of its central location; this would assure the best attendance at meetings of the Association I think.

W. C. DORSET.

Columbia, Tenn., January 5, 1891.

ASSOCIATION NEWS.

PERMANENT MEMBERS.—From the list of Permanent Members of the Association published in THE JOURNAL for December 27, 1890, the following names were unintentionally omitted:

Cannaday, C. G., Roanoke City, Va., 1890.

Duffield, George, Detroit, Mich., —

Way, Eugene, Dennistown, N. J., 1889.

Woodruff, L., Alton, O., 1883.

In revising and copying so many names by the Secretary and Treasurer, there may have occurred other omissions; if so, we will supply the defect by publishing all additional names to which our attention may be called.

MISCELLANY.

LETTERS RECEIVED.

Dr. Joseph Smith, San Jose, Cal.; Dr. Paul Paquin, Columbia, Mo.; Damrell & Upham, Doliber-Goodale Co., Codman & Shurtleff, S. R. Niles, Boston, Mass.; Dr. C. D. Watson, Ontario, Cal.; Dr. W. A. Scott, Swanton, O.; Roberts and Allison, Indianapolis, Ind.; Dr. F. E. Udell, Katharmon Chemical Co., St. Louis, Mo.; Mutual Library Co., Bellevue Hospital Medical College, C. L. Topliff, Thos. Leeming & Co., Jas. F. Madden, J. H. Bates, G. E. Stechert, New York City; Dr. D. S. Lamb, Dr. C. R. Greenleaf, Dr. Irving C. Rosse, Washington, D. C.; Dr. Wm. B. Atkinson, University of Pennsylvania Press, P. Blakiston, Son & Co., Dr. Richard J. Dunglein, Phila., Pa.; Parke, Davis & Co., Detroit, Mich.; Dr. W. B. Canfield, Baltimore, Md.; Plimpton Mfg. Co., Hartford, Conn.; Dr. C. H. Hunt, Stanwood, Ia.; Dr. J. H. Kellogg, Battle Creek, Mich.; Dr. G. L. Knapp, Mt. Vernon, Mo.; Dr. G. O. Ward, Worcester, Mass.; Dr. W. W. Pierce, Waukegan, Ill.; Bank of Washburn, Dr. R. L. Nourse, Washburn, Wis.; Dr. L. L. Leeds, Lincoln, Neb.; Subscription News Co., National Mailing Co., W. F. Keener, Dr. W. F. Coleman, Publishers' Commercial Union, Dr. John Davis Hartley, Dr. H. Wardner, Chicago; Dr. F. D. Haldeman, Ord, Neb.; Dr. W. A. Reed, Necedah, Wis.; Dr. J. P. Stoddard, Muskegon, Mich.; Dr. G. Owen Mead, Newmarket, Eng.; Cincinnati Hospital Library, Cincinnati, O.; Dr. Ashley Thompson, Oshkosh, Wis.; Dr. Jno. M. Foster, Rich-

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Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from December 27, 1890, to January 2, 1891.

Capt. William J. Wakeman, Asst. Surgeon, is relieved from the further operation of par. 13, S. O. 254, A. G. O., October 30, 1890, and telegraphic instructions of the 16th inst., from this office, transferring him from Ft. Bidwell, Cal., to Ft. Huachuca, Ariz. Ter., and he will return from Reno, Nevada, to Ft. Bidwell, for further duty at the latter post. By direction of the Secretary of War. Par. 3, S. O. 300, A. G. O., December 24, 1890.

First Lieut. Ogden Rafferty, Asst. Surgeon, is relieved from duty at Ft. Sam Houston, Tex., and will report in person to the com'd'g officer, Camp Eagle Pass, Tex., for duty at that station, reporting by letter to the commanding General, Dept. of Texas. By direction of the Secretary of War. Par. 2, S. O. 301, A. G. O., December 26, 1890.

Major Stevens G. Cowdrey, Surgeon, extension of leave of absence on account of sickness granted in S. O. 293, December 16, 1890, from this office, is still further extended one month on account of sickness. By direction of the Secretary of War. Par. 8, S. O. 302, A. G. O., Washington, December 27, 1890.

Major John S. Lauderdale, Surgeon, now on duty at Ft. Ontario, N. Y., will proceed to Pine Ridge Agency, S. Dak., without delay, and report in person to Brig. Gen. John Brooke, for duty in the field, and by letter to the commanding General, Dept. of Dakota. By direction of the Secretary of War. Par. 8, S. O. 303, A. G. O., Washington, December 29, 1890.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending January 3, 1891.

Asst. Surgeon G. McC. Pickrell, detached from U. S. R. S. "Minnesota" and wait orders.

Asst. Surgeon A. M. D. McCormick, ordered to the U. S. R. S. "Minnesota" as Dr. Pickrell's relief.

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ADDRESSES.

SANITATION IN 1890.

*The President's Address to the American Public Health Association,
at its Eighteenth Annual Meeting, Charleston, S. C.,
Dec. 16, 1890.*

BY HENRY B. BAKER, A.M., M.D.,
OF LANSING, MICH.

Members of the Association, Ladies and Gentlemen:

In accordance with the custom in this Association, this address is now presented in order to supply a general view of the present status of public-health work in this country, to bring briefly before us a review of some of the progress made, especially since the last meeting of this Association, and to suggest directions in which effort seems to be needed in order that progress shall be most satisfactory and promising for the future.

Many of you are as familiar as I am with these several topics, but as each member of our Association views them from a different standpoint, there is reason for a hope that what is presented in this address may not be tiresome, and I do not forget that there are some present to whom public health topics must be new. To such persons I may say that, although many of its members are physicians, this Association is not a medical association; although many of its members are especially well informed on subjects relating to personal hygiene, yet personal hygiene is not the subject which is uppermost in the minds of members of this Association. If you ask what, then, are the objects of this Association, the reply is found in its name,—“The American Public Health Association,”—and in its constitution wherein it is stated: “The objects of this Association shall be the advancement of sanitary science, and the promotion of organizations and measures for the practical application of public hygiene.”

The founders of this Association recognized the fact that in civilized society the life and health of every person is more or less bound up with the life and health of every other person, that not only is man his “brother’s keeper,” but on each person there rests some responsibility

for the welfare of all,—some responsibility for the public health; and each person has a vital interest in the public health, because of its bearing upon self-preservation.

We have all heard that “self-preservation is the first law of nature;” but I think we must admit that it is not the first, but more frequently the last law of the law-maker. Laws for the preservation of human life and health, in accordance with sanitary science, are of slow growth, and an important object of this Association is “the promotion of organizations” “for the practical application” of sanitary science for the public good, and such organizations for the public good can, as a rule, best exist only through public law, and the ordinary governmental methods.

Governmental methods differ somewhat in the different parts of America, and we must remember that this Association includes representatives not only from the several States of this Union, but also from the Provinces and the Dominion of Canada, and I am happy to say that this year marks a new epoch, for we have with us officially appointed representatives from the general government of Mexico, eminent members of its Superior Council of Health.

If, then, this address is to deal with those objects for which this Association was organized, it must deal with the advancement of sanitary science, and the promotion of sanitary organizations; and, in the United States, the most perfect “organizations” for the practical application of measures for the public good must conform to our form of government, “of the people, for the people, by the people.” In my opinion, there should be such a sanitary organization for the United States and for each other general government, for each of the several States and Provinces, and for each of the numerous local governments.

Advancement of Science. The Causation of Diseases.—It seems evident that no great and substantial progress can be made toward the prevention or avoidance of a disease until we have knowledge of its causation. Therefore the work which it is most important shall be first accomplished is that which shall yield us knowledge of the causation of each disease. Within recent years much progress has been made in this important fundamental knowledge, thanks especially to two en-

lightened governments—Germany and Great Britain.

It should be clearly held in mind that there are seldom less than three important factors, neither of which can be neglected in studying the causation of a disease. For instance, there is (1) the "specific" cause, (2) what (when dealing with atmospheric conditions) I have called the "controlling" cause, and (3) the "predisposing" cause.

Causation of Consumption.—By all means the most important addition to our knowledge in this field, is that for which we are chiefly indebted to Dr. Robert Koch, of the Imperial Board of Health of Germany,—the definite knowledge of the tubercle bacillus—the "specific" cause of consumption, the disease which causes the greatest mortality, in this country, and throughout the world.

Every year there is being rapidly added to our knowledge, details of the controlling conditions, predisposing causes, and modes of spread of that most important disease—knowledge which will enable us to explain the methods by which this most dread disease may be prevented.

Causation of Pneumonia.—The necessity for further knowledge of the causation of a disease than is supplied by knowledge of its "specific" cause is exemplified in the case of pneumonia, which disease, it is believed, can be artificially produced in lower animals by means of its specific cause,¹ yet the causation of which in man and in animals is certainly proved (by statistics and by direct experiments) to be controlled, in great part, by conditions of the atmosphere.²

One attempt to harmonize the facts from these two very different sources, is that by Dr. William B. Canfield, who says: "In the light of recent studies made by Metschnikoff,³ Baumgarten,⁴ Osler⁵ and others, it is more than probable that the phagocytes in a healthy individual, having healthy movements, are able to seize and assimilate the invading organisms, and it is only when an individual not well when the phagocytes lose the power to battle against the specific organism of pneumonia from prolonged exposure to cold, that pneumonia sets in."⁶

But experiments more recent than those referred to by Dr. Canfield, by Nuttall, Buchner, Nissen, Lubarsch, Prudden and others, indicate

that the blood serum, even more than the leucocytes, is concerned in the destruction of pathogenic microorganisms.⁷

Causation of Diphtheria.—Evidence has been accumulating, and it now seems to be established that the bacillus discovered by Loeffler is a specific cause of diphtheria. Dr. Klein, F.R.S., London, has demonstrated that in the cow inoculated with diphtheria, the bacillus passes into the milk. This may account for the spread of diphtheria in some cases, otherwise unaccountable. In the trachea of cats the bacillus is alleged to have caused pneumonia,⁸ which was, I suppose, diphtheritic. Some experiments with doves by Babes and Piscariu⁹ seem to have been especially well planned, and to have yielded results especially important. They found that the bacillus—the specific "germ"—promptly caused diphtheria in doves whose throats were scarified before the application of the bacilli, but did not cause the disease in doves with perfectly healthy throats. That something analogous to this is true, as a rule, concerning diphtheria in man, was claimed to have been indicated by myself some years ago, especially in my paper on the "Causation of the Cold Weather Diseases."¹⁰ The hypothesis which I then published I still believe to be the true explanation, as to the way in which the throat is irritated and made sore, and consequently susceptible to diphtheria and other diseases, by exposure to the inhalation of air unusually cold and dry. But Dr. K. E. Wagner (*Annales de l'Institut Pasteur*, p. 570, No. 9, t. 4, Sept. 25, 1890) has repeated Pasteur's experiments, producing anthrax in fowls by lowering their temperature by cold water, and has found that it can be done if the lowering is by means of antipyrin. His experiments indicate that when the temperature is lowered the rate of destruction is less than the rate of reproduction of the anthrax bacilli, while at the normal temperature of fowls, and especially when raised by the injection of the bacilli, the rate of destruction of the bacilli is greater than their reproduction, in the bodies of fowls, especially in the blood. Outside the body at such temperature (42° C. to 43° C.) the anthrax bacilli do not form spores, and are killed in nine days.¹¹

Experiments are needed to prove whether what is true of anthrax is also true of the other diseases which I have shown to be most prevalent after the cold weather.¹²

Whether or not my hypothesis shall be found to be the correct explanation relative to the en-

¹ Report of Sec. of the State Board of Health, Mich., 1886, p. 315; also H. Morgagni, Oct., Nov., Dec., 1888; also Trans. Md. Med. and Surg. Fac., April, 1889, p. 112; also Bulletin Général de Thérapeutique, Paris, Dec. 15, 1889, p. 520; also Boston Med. and Surg. Jour., Jan. 23, 1890; also Therapeutic Gazette, Vol. xiv., 2 Feb. 15, 1890, p. 142.

² "The Causation of Pneumonia," Report Mich. State Board of Health, 1886, pp. 246-324; also Reports and Papers, Amer. Public Health Assoc., 1887, p. 1; also Bulletin Général de Thérapeutique, Paris, Dec. 15, 1889, p. 520; also Boston Med. and Surg. Jour., Jan. 25, 1890; also Therapeutic Gazette, Vol. xiv., No. 2, Feb. 15, 1890, p. 142.

³ Virchow's Archiv., Vol. xevi and xevii.

⁴ Zeitschrift f. Kl. Medicin, Bd. xv., i. and 2.

⁵ N. Y. Medical Record, April 13, 1889.

⁶ Trans. Md. Med. and Surg. Fac., April, 1889, p. 112.

⁷ T. Mitchell Prudden, M.D., in Med. Record, N. Y., Jan. 25, 1890.

⁸ "Public Health," Minnesota State Bd. of Health, Vol. vi., No. 4, June, 1890, p. 33.

⁹ Zeit. für Hygiene, Vol. viii, part 3rd; The Sanitary Inspector, Maine, July, 1890, p. 67.

¹⁰ Report Mich. State Board of Health, 1887, pp. 197-211.

¹¹ Supplement to the British Med. Jour., Nov. 29, 1890, p. 72.

¹² Report Mich. State Board of Health, 1888, pp. 143-169; Jour. Amer. Med. Assoc., Jan. 18 and 25, 1890, pp. 73-84, 116-129.

trance of diphtheria, experiments indicate that it is true, in part at least, relative to pneumonia,¹³ and the fact now seems to be established that diphtheria, small-pox, pneumonia, and some other diseases that usually enter the body by way of the throat or air passages are increased in prevalence at such times as people are exposed to cold atmosphere.

Quarantine.—It is significant of great progress, I think, that the diseases which it now seems most important to dwell upon, are not the same as in former times. Comparatively little is now said of small-pox, cholera, or yellow fever. In this country these diseases are not such important causes of death as consumption, diphtheria or scarlet fever. For this result, general progress in sanitary administration must receive much credit; but I think that, in this country, much credit must also be due to the greatly increased efficiency of the quarantine services, notably at such important ports as New Orleans, Quebec, and New York. Here, in Charleston, the efficiency has been greatly increased.

The United States Government, also, has, in recent years, done very much more than ever before for the establishment, equipment and maintenance of quarantine stations.

A continuance of this work is desirable; but, for substantial progress, something more than merely continuing the present methods of quarantine is needed. Diphtheria and scarlet fever should be excluded by quarantines; but the entire country is permeated with those diseases, and with the still more important one—consumption; and a Health *Department of the Interior* is needed to be established at Washington, even more than is a continuance of quarantine.

Cholera.—To be forewarned *should* be to be forearmed; but our long continued immunity from cholera in this country has led to a general belief that there is no longer danger from cholera in the United States,—a belief which may be true, but, in my opinion, is not fully supported by facts. The constant presence, throughout the United States, of typhoid fever,—a disease which is believed to be spread in almost the same ways in which cholera is spread, should, it seems to me, teach us more humility as to the assumed sanitary superiority of our people and their surroundings, and should lead us to urge the people to adopt those measures which are now known to be restrictive and preventive of both cholera and typhoid fever.

It should not be forgotten that our greatly improved systems of quarantine at our leading seaports do not yet ensure us against the introduction of cholera in the same manner in which it

was introduced in 1873 when three distinct outbreaks of cholera, in widely remote parts of the United States, were traced to the unpacking of personal effects of immigrants,—at Carthage, Ohio; Crow River, Minnesota, and Yankton, Dakota. So long as conditions are permitted to remain which result in the annual spread of typhoid fever in every State of this Union, there is good reason to believe that cholera would spread, if introduced at a season of the year favorable thereto.

It should be, but is not, generally understood that there is coming to be a thickly-populated area in a portion of this country in which by reason of alkaline waters the inhabitants are probably especially liable to typhoid fever, cholera, or other diseases propagated by microorganisms which enter the body by way of the alimentary canal, and which microorganisms are generally destroyed by the normal acid of the healthy human stomach.¹⁴ It is not probable, but it is possible that if cholera should become once thoroughly established in the warmest portion of the region of alkaline waters in this country, it might possibly find there a permanent home, as it has in the brackish waters of the Ganges in India.

The bare possibility of such a calamity as the permanent addition of cholera to the diseases constantly present in this country should prompt the United States government to a thorough investigation of the subject, lest, through careless disregard of such duties by the government, the lives of thousands, perhaps millions of our people should be jeopardized.

Typhoid Fever.—But, after all, is cholera a more fatal disease or one more to be dreaded than its twin destroyer—typhoid fever? The number of deaths from typhoid fever reported as having occurred in the United States during the census year 1880, was 22,854;¹⁵ and it is probable that not much more than half of the deaths were reported, because the method of collecting the statistics of death for the U. S. Census is known to be very defective. We are apt to look with contempt upon the East Indians for living under conditions which permit their destruction by cholera; while at the same time our own people are permitted to be swept off by the thousands in every year by a disease which we believe to be propagated in almost precisely the same manner that cholera is, and our National Government is doing absolutely nothing to prevent its continuance—does not even grant to its National Board of Health a dollar to investigate and report on the best methods for the prevention of this great waste of life and treasure that continues to go on notwithstanding the belief of leading sanitarians that in great part it is unnecessary, and might easily be prevented without the use of more money

¹³ Dr. Vito Platania, in Italy—*Giornale intern. delle scienze mediche*, fascicule v.; also *Bulletin Général de Thérapeutique*, Paris, Dec. 15, 1889, p. 520; also *Boston Med. and Surg. Jour.*, Jan. 23, 1890; also *Therapeutic Gazette*, Vol. xiv, No. 2, Feb. 15, 1890, p. 142.

¹⁴ Eighteenth Annual Report of the Local Gov. Board, Eng., 1888-9, Supplement containing Med. Officer's Report for 1888, pp. 517, 521, 524.

¹⁵ U. S. Census, Vital Statistics, Vol. xii, part 11, p. 366.

than is annually wasted through preventable sickness from this disease.

I think it is important that the Government should investigate the reason for the prevalence of typhoid fever, "mountain fever," etc., in the region of the Rocky Mountains, and especially in the region of alkaline waters. Such an investigation might throw much light upon the subject of the causation and better means of prevention of fevers throughout the entire country.

Causation of Yellow Fever.—Are not all the facts known relative to yellow fever, compatible with the belief that the disease is caused by the inhalation (or otherwise taking into the human body) of the products of the growth, reproduction, or life processes of some organism, probably microscopic in size, which organism may not be capable of reproduction within the human body, but is capable of reproduction in filth outside the body, at high temperatures, but which organism is destroyed by a freezing temperature?

If there is such compatibility in the facts, is it not desirable that the United States Government should take such measures as shall ensure the thorough searching for such hypothetical microorganism, not in the bodies of yellow fever patients, but in localities known to be infected?

Is not the importance of this subject, either as affecting the lives of citizens of this country, or as affecting the money interests of our people, sufficient to warrant the employment of a number of investigators, and the expenditure of considerable sums of money for investigations in the directions indicated by the facts in the possession of physicians and sanitarians?

It has been found that without the presence of oxygen (as in the human body) the cholera bacteria produce their poison more energetically and more quickly than in the presence of air; but when developed in the absence of oxygen the cholera bacteria are much more sensitive, traces of acid being sufficient to destroy them. When they first leave the body they are, therefore, easily destroyed by the gastric juice in the healthy human stomach, and cannot reach their habitat in the intestine, but if developed outside the body, in the presence of air, the bacteria soon become aerobic and not so easily destroyed. This seems to explain why cholera (like typhoid fever and yellow fever) is only seldom directly contagious, and why the disease is contracted in an infected locality.¹⁶ Something similar or analogous to this being true in typhoid fever, and a noticeable fact in yellow fever, the facts respecting the cholera bacteria may aid in the search for the specific cause of yellow fever.

A Possibility of the Prevention of Cancer.—A study of the locations of 7,881 primary carcinomata,¹⁷ as illustrating the probability of a cancer-

ous microbe, has led Dr. Edmund Andrews, of Chicago, Ill., to believe that the facts he has collected and presented make it probable that a microbe exists, and prove the importance of searching out the microbe; also that much can probably now be done towards preventing this disease, by measures looking to the prevention of access of microbes to those parts of the body most susceptible to primary cancer, especially the lower lip, its liability to primary cancer being "8,448 times greater than a similar area of the intestine."¹⁸

In this connection may be held in mind, an epidemic or outbreak of cancer attributed to the use of cider in the making of which water from an impure source was used.¹⁹

Inflammation.—A proposed general advance "all along the line."—It is coming to be the general belief of physicians, and especially of surgeons, that nearly all inflammations are caused by the presence of microorganisms. (Some of the most common of these pus generators are the round ones—the micrococci, sometimes grouped by twos, and in chains, etc.—*staphylococci*, and *streptococci pyogenes*, three varieties of each: the *albus*, *aureus* and *citreus*.)

Some of these microorganisms are now very widely and generally distributed in thickly inhabited places, while in sparsely inhabited regions, especially in mountainous regions, they are not so generally found. I think we should put with this fact another one—that most new States and localities are, apparently, good health resorts. I remember well that, many years ago, certain States in this Union were considered exceptionally healthful as regards diseases of the lungs, while now the mortality statistics in those States show the greatest proportion of the deaths to be from diseases of the lungs. Part of this change may be due to a change in the average age of the inhabitants, but I think a part of it is due to the fact that the microscopic causes of inflammation have constantly been increasing, so that now the carpets and upholstered furniture in most residences, the floors of most public assembly rooms, the clothing, hair, beard and hands of most of the inhabitants, are infected with these microscopic causes of inflammation.

quent on those surfaces which, by their position, would be most accessible to free-swimming microbes or spores derived from without the body.

² The liability to cancer is increased if the epithelial surface is so situated that the spores can remain upon it for at least some hours without being swept away, as on the lower lip; but the liability is greatly diminished if the parts are frequently swept off, as the globe of the eye by winking, or the esophagus by swallowing food and drink.

³ The liability to cancer is great if the membrane has vast numbers of deep glandular follicles, into which the spores can penetrate and be free from disturbance, and have direct access to the more delicate epithelial cells, as at the pyloric end of the stomach and the follicles of the mammary glands.

⁴ Those portions of the skin which are usually uncovered are oftener attacked than those covered with clothing and constantly brushed by its friction. The skin of the face, for instance, produces more cancers than all the covered portions of the integument combined."—*JOUR. OF THE AMER. MED. ASSOC.*, November 23, 1889, p. 739.

⁵ *JOUR. OF THE AMER. MED. ASSOC.*, November 23, 1889, p. 742.
¹⁶ *Science*, Vol. xiv., No. 342, August 23, 1889, p. 129.

¹⁶ *Amer. Jour. Med. Sci.*, July, 1890, p. 77.

¹⁷ "1. Other things being equal, primary carcinoma is most fre-

The surgeons have been acting upon this comparatively recent addition to our knowledge, and to those of us who practiced surgery only as long ago as during the late war, the successes in recent surgery are marvelous. Not long since, I listened to the recital of the details of fifty-two successive surgical operations, each involving the opening into the abdominal cavity, and each was successful. (Trans. Mich. Med. Soc., 1890, p. 349.) My belief is that much of such wonderful success as is now achieved by the leaders in surgery is due to the advance of our knowledge upon what was formerly known as "the germ theory of disease," which gave rise to what was known as "antiseptic surgery," which is now giving place to what is known as "aseptic surgery." The septic micro-organisms are now kept out of wounds, pus does not form, inflammation does not occur, the wounds heal, and the patient recovers.

What I am about to propose may seem to some of you at first as Utopian, but I hope to be able to enlist your enlightened sympathies in the direction of a movement designed to do away with all inflammatory diseases of man, in a manner analogous to what has been done by the leading surgeons in doing away with inflammations following surgical operations. Let us glance at the stupendous character of the suggestion—to gradually but eventually do away with all inflammatory diseases! No more consumption, pneumonia, bronchitis, laryngitis, pharyngitis, tonsillitis, rheumatism, etc., including nearly all the dangerous communicable diseases.

So far as relates to the dangerous communicable diseases, such as small-pox, scarlet fever and diphtheria, sanitarians now know how to restrict, and perhaps to stamp out most of them, and they are doing this as fast as they are supported in doing it by Governments, but the measures I have to suggest would, I think, tend to aid greatly in that work, and, in addition, would aim to place at once all inflammatory diseases on the list of preventable diseases—diseases which we think we know how to prevent just as soon as the people generally shall come to understand the methods proposed, and shall generally coöperate in the employment of those methods.

Without elaboration,²⁰ my proposition may be put in the form of preamble and questions, thus:

Since nearly all suppurative inflammations are breeding-places for microorganisms which, when they gain entrance into another living body (or into another weak or injured spot in the same body), are capable of again starting the inflammatory process, therefore,

Should not all purulent discharges, and all pus which is accessible, be destroyed or disinfected?
Should not the aim be thus to restrict the spread,

²⁰ I hold clearly in mind methods which if adopted, would I think, probably be effective, but the statement of them cannot be attempted here. Among the most important measures would be the disinfection of all sputa, pocket handkerchiefs, etc.

and eventually to stamp out all inflammations?

Immunity through inoculation of attenuated virus, albumens and ptomaines.—It has long been known that all animals constantly give off poisons which, if accumulated, are fatal to their own existence.

Certain vegetable ferments which produce alcohol, are said to be rendered inactive by the presence of no more than 2 per cent. of alcohol.²¹

Pasteur says: "Many microbes seem to give rise in their cultures to substances which have the property of being harmful to their own development."²²

There seems to be a universal law that all living organisms form poisons to themselves; and there is good foundation for the hope that there may be found methods of using those poisons for the destruction of those microorganisms which cause diseases of man, or otherwise for the prevention of those diseases.

Immunity against Rabies.—Prof. Welch says: "There can be no doubt whatever that it is possible to render animals immune against rabies both before and after inoculations which would otherwise cause the disease. The independent and careful experiments of Ernst in this country are free from all partisan bias, and have fully confirmed the statements of Pasteur and others upon this point."²³

Prof. Henry Sewall, of the Michigan University, demonstrated the possibility, through injection of snake poison, of rendering the organism immune to the bite of the rattle-snake.²⁴

The experiments and practices of Pasteur and others, for the purpose of securing for mankind immunity from dangerous communicable diseases, through the inoculation of the body with the attenuated virus of such diseases, have, for several years, kept this subject before the people, and there has seemed ground for the hope that eventually success would crown the efforts being made in this direction, and if once the principle is learned with reference to one disease, then there is hope with reference to the other diseases. But nearly all such efforts have been made by individual workers, at their own expense, and in such irregular times as they are able to take from their regular avocations by which they maintain them-

²¹ "Immunity through Leucomaines," by Eusebio Güell Bagialupi. Translated from the second French Edition by R. F. Rafael, M.D., J. H. Vail & Co., New York, 1889.

²² Comptes Rendus, séance du 26 October, 1885, p. 771. M. Pasteur said:

"As far back as the year 1830, I had instituted research in order to establish the fact, that the microbe of chicken cholera produced a sort of poison of this microbe.

"One would say, that immediately, there springs into existence a product which arrests the development of the microbe, whether cultivated in contact with the air, or in a vacuum.

"Mr. Raulin, my former assistant, to-day Professor to the Faculty of Lyons, has shown, in the remarkable thesis which he sustained at Paris March 22, 1870, that the vegetation of the *Aspergillus niger* develops a substance which arrests, in part, the production of this mold when the nutritive medium does not contain salts of iron."

²³ William H. Welch, M.D., Trans. Maryland Med. and Chirurg. Faculty, April, 1889, pp. 170, 171.

²⁴ Mentioned in British Med. Jour., November 29, 1890, p. 1264.

selves. A few workers have been employed by Governments, but there is no such Governmental support of such investigations as the immense importance of the subject demands, and especially not in our own country. The United States Government can be commended for what it does in this direction relative to the health of *domestic animals*, but what *can* one say, by way of apology for a Government that appropriates hundreds of thousands of dollars to study the causes of diseases of domestic animals, and then fails to appropriate as much to do a similar work for the lives of the people? I wish, however, to commend what has already been done by the U. S. Government.⁵⁵ I have already mentioned what it has done for quarantine; but I believe there is promise of great good to the human species as a result of the Governmental researches into the causation of diseases of animals. The work of Drs. Salmon, Smith and Schweinitz, of the U. S. Department of Agriculture, looking to the production of immunity in animals exposed to hog cholera, has added greatly to our knowledge of the underlying *principle* in the production of immunity to dangerous communicable diseases of animals and of man.

Dr. Welch has said: "That immunity against infectious diseases may be secured by the injection of chemical substances produced by the growth of specific bacteria, was demonstrated first by Salmon and Smith in the case of hog cholera, and has since been demonstrated by Roux and Chamberland for malignant oedema, and by Wooldridge for anthrax,"⁵⁶ both dangerous diseases of man as well as animals.

Published accounts of experiments by Dr. Schweinitz,⁵⁷ and also by Frederick G. Novy, Sc.D., at the Michigan State Laboratory of Hygiene, indicate that by the inoculation of an animal with the albumens and ptomaines formed in culture liquids by the life-processes of the germs of hog cholera, the animal becomes insusceptible to hog cholera, whether exposed to the disease by inoculation or by direct contact and association with animals sick with the disease. Dr. Schweinitz was even able to produce immunity in an animal by inoculation with a pure chemical prepared synthetically in the laboratory. The results of these experiments are in harmony with facts already known.⁵⁸ Perhaps the term "attenuated virus" may still be used if we consider that the "attenuation" consists in the destruction of the germ, and in the saving of its products for use in the production of immunity. Of course much remains to be done before this knowledge can be

made directly available in the prevention or restriction of dangerous communicable diseases of man, and the sooner that work is done the sooner the thousands of human lives now lost through those diseases may be saved. Such work is for the general good, and should be done by the General Government. It should be done with reference to diseases of man, and not confined to diseases of animals, nor even to diseases which, like rabies, affect man and animals.

Is it not time that human life should be recognized as a proper object, and the most important object of solicitude on the part of the National government of the United States?

It will be a great gain, however, if it can be brought about that the government shall do such work, even if only for the saving in money values to the people, which, undoubtedly, would be immense.

Antidotes to Diseases Already Acquired.—At the recent International Medical Congress in Berlin, Dr. Koch, of the Imperial Board of Health, referring to his now famous consumption cure, said: "My researches on this substance, therefore, although they have already occupied me for nearly a year, are not yet completed, and I can only say this much about them, that guinea pigs, which, as is well known, are extraordinarily susceptible to tuberculosis, if exposed to the influence of this substance, cease to react to the inoculation of tuberculous virus, and that in guinea pigs suffering from general tuberculosis even to a high degree, the morbid process can be brought completely to a standstill, without the body being in any way injuriously affected." . . . "This opens up an oft-promised field of work, with problems which are worthy to be the subject of an international competition of the noblest kind." . . . "Allow me, therefore, the expression of a wish that the nations may measure their strength on this field of labor and in war against the smallest, but the most deadly, foes of the human race; and that in this struggle for the weal of all mankind, one nation may always strive to surpass the other in the successes which it achieves."⁵⁹

Certainly we can all join with Dr. Koch in such wishes for National effort for life-saving work; but I think that, among all the countries represented at the International Congress, there are few governments which occupy such an enlightened position on the subject of sanitary researches as does the German Empire. If our own National Government would even do as much as to publish and thoroughly disseminate among our people the important results of the researches made by the German Imperial Board of Health, our people would have cause to rejoice, and probably thousands of human lives would be saved through the knowledge thus obtained. Some-

⁵⁵ JOUR. OF THE AMER. MED. ASSOC., July 5, 1890, p. 1.

⁵⁶ William H. Welch, M.D., TRANS. Maryland Med. and Chirurg. Fac., 1889, p. 172.

⁵⁷ Med. News, Philadelphia, September 6, 1890, pp. 231-9, and October 4, 1890, pp. 332-5.

⁵⁸ The substance used by Dr. Koch for the eradication of consumption is not yet made known, but it may be expected to be in line with those facts.

⁵⁹ Journal of the Am. Med. Association, Vol. xv, No. 10, Sept. 6, 1890, p. 370.

thing in the direction of such publication has recently been done by the U. S. Marine-Hospital Service. But much more than has yet been attempted should certainly be done in that line. And if our government were to wake up to the importance of doing what the highest interests of its constituents demand—cause researches to be made for the creation of such knowledge—it can find as bright intellects and as faithful workers among our own scientific men as there are in any country; and in a short time the world might be as much indebted to the United States Board of Health for life-saving knowledge as it now is to the Imperial Board of Health of Germany.

While we accord great honor to Dr. Koch, who discovered the specific cause of consumption, and who now thinks he has discovered its antidote, let us not forget that it was an honored member of our own Association, our President in 1887, Dr. Sternberg, of the U. S. Army, who first discovered the specific cause of pneumonia, a disease which, as a cause of mortality in this country, ranks only a little lower than consumption; and, if the subject were followed up, it should yet yield results somewhat comparable with those reached by Dr. Koch with reference to the somewhat similar disease which he seems to have conquered.

Let us consider for a moment the prospective importance of such a discovery as that suggested by Dr. Koch: It is not claimed that all deaths are reported in this country, but the reported deaths in the United States from that one disease, consumption, in the single census year 1880 were 91,270; without doubt more than 100,000 such deaths occur in the United States in each year. If, as stated by Dr. Koch, "in guinea-pigs suffering from general tuberculosis even to a high degree, the morbid process can be brought to a standstill, without the body being in any way injuriously affected," there is certainly ground for the hope that something approaching that can be done for the human being, and that, if sufficient intelligent effort be put into the research, the substance which will do this can be found, even if it has not already been found by Dr. Koch. Let us suppose that our own National Government were to pay for such researches, and that annually the lives of one-half, or even of one-fourth of the 100,000 of our people, who otherwise would have prematurely died, were to be saved. How would that compare with the work of the Agricultural Department of our government, for the distribution of garden seeds? How would provision for such work by Congress compare with its work for the protection of our infant industries? How would it compare with any work that has been done by Congress during the past twenty years? I admit that in 1879 it established a National Board of Health; but the government failed to sustain the Board long enough to per-

mit of many such researches as those I suggest, although, as long as it was sustained, it did excellent work.

In comparing public-health work with the work of the U. S. Agricultural Department, I do not forget that—

That art on which a thousand millions of men are dependent for their sustenance, and two hundred millions of men expend their daily toil, must be the most important of all,—the parent and precursor of all other arts.³⁰

But all must concede that agricultural art has now made such wonderful progress that there is no longer need for more, to fully sustain not only the necessities of man, but to supply many luxuries. Superfluous effort, therefore, might well be diverted from agriculture, to supply those provisions for public-health work for the want of which hundreds of thousands of our people actually prematurely perish, and hundreds of thousands more drag out a miserable existence.

So many of our people are now raising farm products, that that is claimed to be a comparatively unprofitable occupation.

Apparently, then, this country needs fewer farmers, more sanitarians.

We welcome to our ranks, however, not only farmers, but all good people.

They have departed, but their works continue.—Custom and humanity dictate that there shall be public recognition of the services of those who have publicly labored with us, and who have ceased their labors, but whose good work will go on down through the ages. Considering our numbers, and the average age of our members, it is to be expected that in every year death will overtake some of us. Before the time for our next meeting, some of us will have passed over to the "great majority." Since the last meeting, so far as I know, only three of our members have died: Dr. Charles Linneaus Allen, Secretary of the State Board of Health of Vermont, who was elected a member of this Association in 1888; Dr. J. H. Baxter, Surgeon-General of the U. S. Army, a member of this Association since 1876; and Dr. William Brodie, President of the Board of Health of Detroit, Michigan, a member of this Association since 1873. Dr. Brodie had long been a prominent member of the medical profession; he had been President of the State Medical Society of Michigan; and President of the American Medical Association. It was largely through his work that this Association held its successful meeting in Detroit in 1883. Dr. Brodie was President of the first Sanitary Convention held under the auspices of the Michigan State Board of Health.

I trust that a committee or the Secretary of this Association will make fitting records of the

³⁰ James F. W. Johnston.

services of our deceased brothers, and of tributes to their memory.

Death of Sir Edwin Chadwick.—Since our last meeting, sanitary reform has lost an able advocate, in the death of Sir Edwin Chadwick in England. In recording his death, the *British Medical Journal* said :

Few men have deserved better of their country than the veteran sanitarian whose death, at the advanced age of 91, we have to record. His investigations of the sanitary condition of London, dating back to 1817, were the official starting point of a reorganization of the Health Department, and laid the public legislative basis of the first of a series of sanitary reforms which have been of inestimable value during the last half century in the saving of life and diminution of sickness and disablement. His subsequent services to the cause of army health reform, and his continuous devotion to great and small questions of public and personal sanitation, placed him quite in the first rank of non-medical sanitary reformers.

It has been aptly observed that had he, as a military man, succeeded in destroying one-hundredth part of the lives which he was prominent in assisting to save, his statue would have been erected long since in more than one of the great cities of the empire, and he would have been loaded with honors and titles. As it is, it was not until he attained the age of 90 that he received the honor of knighthood.³¹

Practical Application of Sanitary Science.—I have already touched that subject which was declared the second object of this Association, but mainly to show that the most rapid advancement of sanitary science is made, and is to be expected, where governmental aid is most complete and abundant ; in other words, where the people as a whole contribute, according to their means. Having left the subject of advancement of science, I will briefly consider such "organizations and measures for the practical application of public hygiene."

State Boards of Health.—There is reason for a high degree of pride in the wonderful development, in this country, of the State Boards of Health. Although none of them have anything approaching the resources which are placed at the disposal of the Imperial Board of Health of Germany, or of the Government Board of England, and it must be confessed that the debt which humanity owes to Dr. Robert Koch, of the German Board, is perhaps greater than to any man in this country, in any field of human effort, still I think it can fairly be claimed that some of the State Boards in the United States rival the boards of health in the general governments of the most enlightened countries in the world—rival them in the amount of useful services which they are continually performing for their own people and for the general sanitary enlightenment of the world ; especially do they rival them in the immediate practical results of their work.

For instance, statistics which appear to be trustworthy, seem to prove that in one State, and apparently through measures inaugurated and main-

tained by the State Board of Health, the deaths from small-pox have been so reduced that more than one thousand five hundred persons have continued to live who would have died from that disease if its mortality rate had continued as it was before the establishment of the State Board of Health. A thousand five hundred lives saved from small-pox means a saving also of at least six thousand cases of sickness from that loathsome disease.³²

In that same State, also, the vital statistics seem to prove that through similar though not identical work, there has already been a saving of life from scarlet fever equal at least to five thousand persons, and (if the death-rate was ten per cent.) a probable saving of fifty thousand cases of sickness from that disease.³³

Nor is this all ; statistics indicate that at least *one life a day is being saved* in that State by measures started and maintained by its State Board of Health for the restriction of diphtheria.³⁴ As the death-rate is about twenty-four per cent., at least fifteen hundred cases of sickness from diphtheria are prevented annually.

At least one other State (Massachusetts) has undertaken statistical effort to learn the effect of such work, and similar saving has been made apparent.

It seems desirable that other States, in which similar work has been done, should collect and publish evidence of the results of their work.

The Value and Importance of Statistics.—On many questions of public policy, no useful conclusion can be reached without a thorough knowledge of the facts involved. And frequently it is important to have accurate knowledge respecting several classes of facts. For instance, in order to know what disease it is most important that we shall strive to prevent, it is necessary to know what disease causes the most deaths, or the most suffering among the people. Mortality statistics supply this knowledge. Again, in order to know whether a disease which is an important cause of death is itself caused by climatic or meteorological conditions, it is necessary to have, and to compare with the statistics of deaths and of sickness, other statistics relating to the various meteorological conditions.

For several years we had at Washington a United States Commissioner of Labor, and he has collected valuable statistics on the various branches of the subject of human labor. We ought to have at Washington an officer charged with the duty of collecting statistics relating to those subjects which bear directly upon human life and health.

There is now a "Department of Labor" in the

³² Proceedings of Sanitary Convention at Vicksburg, Michigan, 1889, p. 56.

³³ Proceedings of Sanitary Convention at Vicksburg, Michigan, 1889, p. 58.

³⁴ Proceedings of Sanitary Convention at Vicksburg, Michigan, 1889, p. 62.

³¹ British Med. Jour., No. 1541, July 12, 1890, p. 96.

United States Government. Should there not be a "Department of Life and Health?"

Statesmanship.—This is an age of organizations among the people, for the general benefit of all. People generally are coming to have that degree of intelligence, education and culture, which fit them for self-government. The daily papers, the magazines, the excellent postal facilities, the telegraph and the telephone, have served greatly to equalize the intelligence of the people generally; they have served greatly to do away with famines, with continual warfare, and, I believe, with great wars; and certainly they have done much to make the old-time plagues and pestilences horrors of the past.

Yet, although the general governments of countries are making progress toward conforming to the actual conditions among the people, old customs and precedents have a powerful influence in restraining progress; and I think this is more noticeable to members of this Public Health Association than to any other class of people; for the reason that sanitary science is a comparatively new science, and has not for so long a time been available for spreading its knowledge among the people. But already the leading minds in several of the most civilized countries have recognized the fact that the greatest good to the greatest number of citizens consists, first of all, in securing to them life and health. Thus, for instance, Disraeli said that action in this direction "is the wisest statesmanship." Gladstone has expressed himself similarly. And, through the lead of such statesmen, England has its useful general board of health—the "Local Government Board," with its corps of medical officers. Some of the important work of the German Imperial Board of Health is well known.

In our own country, the framers of the Declaration of Independence declared that "life, liberty and the pursuit of happiness" are "among the unalienable rights," to secure which "governments are instituted among men."

In times past, the minds of men and of governments have been kept so occupied with protecting the lives of their citizens from the dangers caused by the battling of other men, hostile tribes, and foreign governments, that little time or energy has been left to devote to the protection of life and health from ordinary preventable causes of death and sickness. Now that men and nations are coming to be less destructive of each other, it is rapidly coming to be seen that by organized effort and general coöperation a great proportion of the premature deaths, and of the sickness from the most common diseases, and the resulting pauperism, insanity and crime, can easily be prevented; and this without any radically new principle of government, but by an extension of the principle of protection of life and property, into new systems of effort. The constitution gives

Congress the power to "provide for the common defense and general welfare of the United States."

It is the same now as when the book of Hosea was written—our "people are destroyed for lack of knowledge," and a government has only to collect, search out, and disseminate among its people "knowledge" of the causation of disease, its modes of spread, and how to avoid causes of deaths and the spreading of epidemic diseases, to make it possible for its people to have safety to "life" and that "pursuit of happiness" which is only possible to persons in health. This implies, however, that the government must constantly maintain statistical investigations and scientific researches into the causation of diseases, and such a complete and thorough system of prompt notification of the outbreak of every dangerous communicable disease within its own country—and also in all parts of the world where it may readily spread to its own country—that the government shall be able to and shall in fact promptly warn all its people endangered, and not only warn them, but shall at the same time place before them the best that is known or can be learned concerning the exact methods for avoiding the dangers to life and health from that particular disease which at the time is threatening.

Only by some such modification of governmental methods is it possible to do for a people that service which it is the highest function of a government to perform.

We hear much about the wisest statesmanship as applied to such questions as relate to our commercial dealings with other nations, questions whether it is wiser to have "free trade" or "protection" of home industries; yet these are questions of small consequence to the people of any country when compared with questions which involve the protection of the lives and the health of the people themselves; because the people can get sufficient food and other necessities for subsistence under "free trade" or under "protection;" but under neglect of proper governmental protection of life and health, a large proportion of the people prematurely die, and still larger proportions suffer sickness, life-long pain, and physical and mental degradations, from causes which under proper governmental protection are easily preventable. That this is true, there is no longer question; incontrovertible facts are on record proving that it is strictly true. As soon as this knowledge comes to a majority of the people, they will surely demand that the government shall no longer neglect its highest functions; and we may confidently look forward to a "good time coming" when the *safety of life to our people* shall be the first and most important concern of the enlightened government of these United States; when the most important officer in this country, whether he is called Commissioner of Health,

Secretary of the Health Department, or President of the United States, shall, at all events, be its wisest sanitarian, or at least its most competent public health administrator. And you, the members of this Association, are and should be laying the foundations, and fitting yourselves for the performance of such highest and most sacred duties; for, in these days of rapid advances in the spreading and equalizing of knowledge, we know not how soon the clamor of our people, for the protection of their lives, may force upon our own National government the proper performance of its highest duties, which it has so long neglected.

ORIGINAL ARTICLES.

BORACIC ACID AND MASSAGE IN PANNUS.

Read in the Section of Ophthalmology at the Forty-first Annual Meeting of the American Medical Association, held at Nashville, Tenn., May, 1896.

BY C. R. HOLMES, M.D.,

OPHTHALMIC SURGEON TO THE CINCINNATI HOSPITAL; CLINICAL LECTURER ON DISEASES OF THE EYE, MIAMI MEDICAL COLLEGE; PROFESSOR OF OPHTHALMOLOGY TO THE WOMAN'S STATE HOSPITAL MEDICAL COLLEGE.

The treatment of a limited number of affections of the eye and its appendages by massage is, as is well known, not new, and to Donders belongs the honor of having first proposed it, at the Ophthalmological Congress in London in 1872.

Massage has been practiced with or without the addition of ointment; but Landolt was, so far as I know, the first to systematically use boracic acid and massage in granular affections of the conjunctiva and cornea.¹ Acting on this suggestion, I began last year to make observations on a number of cases, and present herewith the results.

New methods and remedies are too often lauded far above their real worth, but after nearly a year's trial, I am satisfied that in the treatment of pannus, whether acute or chronic, it is most valuable, especially when used in connection with one or more of the standard remedies directed toward curing the lid affection. Its chief value lies in the rapidity of its action, a few days frequently giving as good and often much better results than as many weeks by the usual methods.

I have also tried it in cases of granular and follicular conjunctivitis where there was no corneal affection, selecting cases where the inflammation was, so far as I could determine, equal in both eyes, treating one eye with boracic acid powder and friction, and the other with the usual astringents. For a few days after instituting the comparative treatment, the eye receiving massage would appear more improved than the other, but after that the treatment by astringents would lead while the other would either appear stationary or

recede, till the plan was abandoned, and the old reliable remedies used in both eyes.

I now use a 5 or 10 per cent. solution of cocaine as an anæsthetic, then evert the lids and separate them as much as possible with one hand, while with the other, by means of a camel's hair brush, as much powder is dusted into the eye as it will contain. Then, by grasping the edge of the upper lid with thumb and index finger, replace the lid in such a manner that the powder will be retained between the cornea and the lids. With the index finger or thumb massage is then begun. I do not anoint the finger as has been recommended for simple massage, for we desire the friction movement to take place between the lid and the globe, which at best is only limited if the globe is stationary. Cocaine gives the patients, as a rule, control of the movements of the eye, and I direct them to look in such direction as will bring the cornea under the finger. In many cases the cornea rolls upwards, and we must endeavor to follow the position with the finger.

The friction should be continued from one to five minutes to each eye, the duration depending upon the density of the pannus and whether it be of long or short standing.

My cases are about equally divided between private, hospital and clinic patients.

Case 1.—Master B., æt. 12, a typical case of severe granular conjunctivitis of four years' standing, with dense pannus. During last three months had to be led about. Much photophobia and lachrymation present on examining the eyes. Can only see movement of the hand in front of his face. The sulphate of copper crystal and atropine was used two weeks, with improvement of lids but not of cornea. Changed to boracic acid and friction, and from day to day we could see the cornea clearing up. In one week vision became $\frac{20}{200}$. The lids during this week received no other treatment and began to look worse, when the mixed treatment was continued from that on until his corneæ were clear and he went to his home in the country. Duration of treatment ten weeks. When discharged he could, with a little effort, read ordinary print.

Case 2.—Mr. R., æt. 45. Contracted granular conjunctivitis four years ago. *Status Præsens:* Lids present the ordinary cicatricial alterations of a well-marked case, having almost completed its course. But the upper third of cornea, especially outer quadrant, is covered by a thick, flesh-colored mass extending upon the sclera for a distance of $\frac{1}{4}$ inch, where it gradually begins to become thinner. At this point the follicles become plainly visible, assuming a straw color, gradually fading into the normal ocular conjunctiva. The family physician was inclined to regard it as malignant. The other cornea showed the effects of pannus in the form of extensive

¹ See *Annual of Universal Medical Science*, 1889, Vol. iv., p. B, 70.

nebulae becoming denser in the upper third, but there is no acute inflammation about this eye. Boracic acid and friction was instituted twice daily, duration five minutes at each sitting, pain controlled by repeated instillations of cocaine. After each treatment there was great vascular activity, which soon subsided. After three days one could notice slight improvement. Patient returned home, where his physician carried out the treatment once daily for three weeks, when he returned with the mass three-fourths absorbed. Another two weeks' treatment at my office was sufficient to remove the mass entirely, leaving central portion of cornea clear, upper portion slightly cloudy, but quite smooth.

I have the records of fifteen other cases treated by this method, but will not take your time nor try your patience by a repetition of results, but I only say in conclusion, that I am fully aware of the fact that but little value can be placed upon conclusions drawn from treatment of a few cases. I only offer them for your consideration, being the result of careful, painstaking observation; and hope during the coming year to continue my investigations, profiting by the views and experience of others.

The good results I have obtained from this method of treatment, I attribute to a mechanical cause, viz.: the friction, thus bringing about increased arterial and venous circulation, breaking down degenerated epithelial masses and forcing open occluded lymph channels, thereby preparing the way for rapid absorption of pathological products.

I believe that any other powder equally palpalbe and unirritating would do as well as boracic acid.

HEMORRHAGE FOLLOWING EXTRACTION OF A
BLACK CATARACT IN A HIGHLY MYOPIC EYE,
PROBABLY ASSOCIATED WITH CHOROIDAL
CHANGES; ENUCLEATION.

Margaret S., æt. 53, widow, good physique, habitual user of strong drink, admitted to Cincinnati Hospital October 23, 1888. States she has been very nearsighted since childhood. About six years ago she noticed vision failing in the right eye, and since four years the left has slowly followed the same course. By ordinary inspection with pupils dilated by a mydriatic, cataract appeared, almost black in the right and grayish-black in the left eye. Cornea, aqueous humor, iris and tension normal in both eyes. The ophthalmoscope reveals total opacity of both lenses, by candle test field of vision is very defective centrally, fair at periphery in the left eye, while in the right she is unable to locate the candle over a large portion of the right half of field. Heart, lungs and urine normal.

October 27. Under cocaine I extracted the right

lens without iridectomy. Lens very large, black and hard, when placed on a piece of white paper only the very margin permitted any light to be transmitted. Healing process not attended with the slightest inflammatory reaction. On the third day patient was permitted to sit up, pupil responding to light. Discolored capsule gives pupil a grayish appearance.

November 10. Under cocaine made a liberal but distinctly corneal incision upwards; liberal because, in extracting the right lens, I underestimated its size and hardness, making its exit through the corneal incision somewhat difficult. After lacerating the capsule and beginning manipulation for expulsion of lens, a hernia of iris and vitreous presented in the wound.

I at once made iridectomy, and delivered a large, black and hard lens without further complications. There was only slight bleeding from the cut iris, the blood being readily expelled, leaving a black key-hole pupil. Figure of 8 bandage was applied. The eye felt comfortable till two hours after the operation, when patient had an unpleasant feeling in the eye, became sick at her stomach and vomited, pain in the eye becoming very severe. The interne found the bandage saturated with blood, some of it trickling down her cheek. The pain was controlled by hypodermics of morphia. Next morning I found swelling of lids, and on exposing the globe discovered a large mass of blood stained vitreous protruding from the corneal wound and slight bleeding still going on. The hernia was not abscised for several days because patient refused to have it done. There was slight oozing of blood for five days. No microscopic examination was made of the abscised hernia, and I am unable to state whether or not it contained portions of the retina. The shrunken globe was tender and irritable, enucleation was advised, but refused at first. Six weeks later she consented to enucleation, as the tenderness still continued. The eye was removed by Dr. Robert Sattler, who was then on duty.

When seen three months later the capsular opacity, in the pupil of the right eye, was still sufficiently dense to prevent seeing the details of fundus. In this condition her vision was about $\frac{2}{30}$ —not improved by convex lenses. Discission was of course the proper thing to do, but on account of my experience with the other eye, I delayed, and when later on I sent for her to go into the hospital to have the operation made, I found she had left the city. I regret having lost sight of the case, as I was desirous of obtaining a good view of the fundus in order to determine the existence or non-existence of choroidal alterations. Whether the color of the cataracts was due to former intraocular hæmorrhage, or to simple densification of all the cortical substance, I am unable to state.

THE COLITIS OF INFANTS.

A Paper prepared for the Cincinnati Academy of Medicine.

BY JAMES M. FRENCH, A.M., M.D.,

LECTURER ON MORBID ANATOMY AND DEMONSTRATOR OF PATHOLOGY AT THE MEDICAL COLLEGE OF OHIO; PHYSICIAN TO ST. MARY'S HOSPITAL, CINCINNATI, O.

Acute colitis, in the sense of an acute catarrh of the large intestine, occurs in infants as a primary disease or as a part of the affection which has received, among other names, the designation enterocolitis. If, in what I have to say of it in the latter connection, I shall appear to make an unnatural separation of usually associated lesions, I hope to be excused on the ground that I believe that colitis is a part of the disease which is too often lost sight of, particularly in the treatment of it.

It is in this connection with catarrh of the small intestine that the disease is most frequently encountered. It then occurs as a sequence of cholera infantum, or of an acute dyspeptic diarrhoea.¹

In its primary form colitis is usually due to errors in diet, especially when it affects infants which have passed the weaning period. Occasionally it complicates other diseases, as the acute exanthemata, or arises from the irritation of foreign bodies or parasites in the bowel. It begins, in some cases, gradually, and runs a mild, nearly or quite afebrile course of a few days' duration; in other cases, it begins with sudden alarming symptoms, rapid rise of temperature to 103° or 105°, great prostration, nervous excitation, even convulsions, with frequent, small, bloody stools, consisting largely of mucus.* It may then speedily terminate in death, or may last for weeks or months. It so much resembles, in its general features, the dysentery of adult life, that some authors have used the latter term in its description. True dysentery is, however, rare in infants.

The enterocolitis which follows the acute stage of cholera infantum is like a broken truce, or the siege which follows an unsuccessful engagement. The more alarming symptoms of the disease have passed away. The temperature has returned to the normal; the nervous phenomena have subsided; strength and appetite have in part returned; the stools have become more consistent, and the child's appearance has begun to indicate that convalescence is near. But the child continues restless, begins to have pain and is peevish. Fever again appears, ranging, as a rule, from 101° to 102°. The stools become smaller and more frequent. They consist of undigested food, mucus, and as a rule, a variable amount of blood. The odor is fetid in proportion to the quantity of undigested and decomposed food which they contain. The disease now has a tendency to persist, or to recur at short intervals, and often presents the features of inflammation of the large bowel, rather

than of the small. When it is persistent, the frequent, small, painful, bloody stools continue day and night. The little patient gets no rest, until, if the disease be not checked, after from three to six weeks, he is relieved by death. When the disease is more remittent in character, there is a gradual failure in strength and loss of flesh, until the little sufferer has become extremely emaciated. His facial expression is that of an aged person, and his integument, often dry and scaly, seems too large for his wasted frame. The duration of the disease in this form is indefinite. Beginning early in the summer, or under faulty hygienic conditions, it usually continues until the season or these conditions have changed. Ordinarily recovery is slow, and relapse is exceedingly common.

When enterocolitis begins with the so-called dyspeptic diarrhoea, there often appears to be almost from its inception a catarrhal condition of the entire intestinal tract, commencing in the stomach and passing, like a wave, along the entire mucous membrane. The symptoms are vomiting, followed almost immediately by diarrhoea, which, after from a few days to a week, almost always presents features characteristic of catarrh of the large bowel, the frequent, small, bloody, mucus stools that I have described.

Enterocolitis is therefore a disease which commences in the upper portion of the alimentary canal and progresses downward, rather than one that affects all portions at the same time. After the brief initiatory period, it as a rule affects only the lower third of the ileum and a greater or less portion of the colon. Unfortunately, the lesions which are found post-mortem in both cholera infantum and enterocolitis are not sufficiently constant to be entirely characteristic. Moderate hyperæmia, if it exist, is a condition which largely disappears at death, and extreme hyperæmia, although the rule, is by no means constant. Loss of intestinal epithelium, a much more constant finding in such cases, occurs as a rule in from six to ten hours after death, and is not pathognomonic of intestinal disease. But intense inflammatory processes soon lead to permanent changes. Follicular ulceration, and cellular infiltration of the mucosa, the submucosa and deeper tunics of the bowel are the common results of the prolonged catarrhal process under consideration. The point that I desire most to emphasize is the fact that lesions occur in the large intestine not only in a large proportion of these cases, but that their character indicates a severity of the diseased process which in most cases quite exceeds that found in the ileum.

That the mucous membrane of the colon should be thus often involved in the morbid process is almost axiomatic, since into the colon must pass the products of all pathological processes situated in the upper alimentary tract. Cholera infantum is variously accounted for, but owing to the fre-

¹ Holt's classification is here followed. "Cyclopedia of the Diseases of Children," Vol. iii, p. 134.

quency with which microorganisms are found in the dejections and in the intestines after death, it has been pretty generally accepted that the disease is due to the action of bacteria which have not yet been isolated. By those who accept this theory, the symptoms are supposed to be due, for the most part, to the ptomaines produced by these bacteria. The local inflammatory process in the large bowel is doubtless in part due to the action of the same bacteria and ptomaines, but it is probably in part a result also of the abnormal fermentation of intestinal contents caused by other germs or by no germs. Chemical changes in all probability occur. The evidences of most intense inflammatory action are found in those portions of the colon in which the contents remain longest in contact with the mucous membrane, namely: in the cæcum, the transverse colon and in the sigmoid flexure. In the primary form of the disease, the lesions, the same in character as those described, are found for the most part in the sigmoid flexure and rectum.

The treatment of colitis is to be considered apart from that of affections of the small intestine only in the comparatively infrequent primary form of the disease. But even in cases of this nature, attention must be given to the character of the gastric and intestinal digestion. Incomplete digestion or abnormal fermentation of any kind may act either as an exciting cause of inflammation, or may tend to prolong its duration when once it has begun. Errors in diet must therefore be carefully rectified, and a diet suitable to the age of the patient must be selected. Only liquid food—milk and beef or mutton broths, is to be permitted. If constipation has preceded the attack, or if from the history of improper diet, the presence of flatus, or the character of the stools, the presence of abnormally fermented matter or other irritant substances be suspected, calomel in doses of from $\frac{1}{10}$ to $\frac{1}{2}$ gr. may be given every three hours until purgation is produced. In a majority of cases, little or no other treatment is required. Severe cases, however, require more active measures, in the manner to be described.

The treatment of entero-colitis is often exceedingly difficult, for here we have, in addition to the disease of the colon, an inflammatory state of the lower third of the ileum. Within a few days from the onset of the disease the little patient becomes prostrated and the signs of emaciation begin to appear. As the large intestine becomes involved, the frequent, often constant desire to defecate, the tormina and tenesmus, prevent sleep, and the condition often becomes alarming. How, then, can we relieve the patient from these symptoms, and what can we do to arrest the inflammatory process? The essential feature of the treatment at this stage is to so change the character of the intestinal contents that they shall no longer be irritating in character, and to give rest to the

inflamed mucous membrane. This is to be accomplished by correcting errors of diet, by overcoming defective digestion, and by arresting abnormal fermentation.

For the correction of errors of diet much is to be considered, the recitation of which would here be out of place. It is necessary that the child shall receive the proper quantity of the right kind of food at the right intervals for its age. Not seldom the error will be found to consist in the too early resort to a mixed diet, too frequent nursing, or the use of such inferior substitute for mother's milk as impure cow's milk, condensed milk, or an inferior quality of artificial food, or the use of improperly prepared food. The diet should consist of articles of food which are most certain to undergo easy and complete digestion, leaving as little residue as possible. The passage of healthy fæces from the small intestine into the large in these cases is sufficient to excite peristalsis. For this reason, we must also carefully guard against over-feeding. Cold drinks must be prohibited, except the taking of an occasional teaspoonful or two of water to relieve the excessive thirst which is always present. A copious draught of cold water is almost inevitably followed by an evacuation of the bowel. Digestion may be facilitated by the administration of an active pepsin or pancreatine; and the addition of a small quantity of calomel tends to arrest abnormal fermentation. I have rarely employed any medicines other than those contained in the following prescriptions:

- R. Pepsini (F. & F., or P. D. & Co.), gr. xij to xxiv.
Hydragryi chlor. mitis, gr. ss to j.
Sacch. lactis q. s.
℞. ft. chartas No. xii.
S. One powder every three hours.

Or, in cases in which the intestinal digestion appears to be at fault:

- R. Extracti pancreatis (F. and F.), ʒss to j.
Hydrag. chlor. mitis, gr. ss to j.
Sacch. lactis q. s.
℞. ft. chart. No. xii.
S. One powder every three hours.

It is better to give explicit directions that the powders be given immediately before or after nursing, and not oftener than once in three hours, as it is in this way possible to more completely rectify the error of too frequent feeding than by any other means, for our instructions as to the giving of medicine are more likely to be obeyed than are those pertaining to the correct manner of feeding the infant, a subject on which every mother has her own ideas. Naphthaline has been highly recommended for arresting decomposition, but although I have had excellent results from it in adults, I have used it in but two or three children. Its odor makes it difficult of administration. The advice of some writers to give small quantities of nourishment at short intervals is not judicious, as it both tends to embarrass diges-

tion and to increase peristaltic action. Ordinarily the diet of nursing infants may be restricted to the mother's milk, and that of infants that have been weaned, to sterilized cow's milk. But in severe cases, it is necessary to discontinue even cow's milk, for a time. By this means alone are we able to free the inflamed bowel from the influences which keep up the inflammation. The removal of food is by no means an easy task in most cases. Something must be given both to provide nourishment and to satisfy thirst. Mellin's food prepared with water instead of milk is well suited to this purpose, as it furnishes ample nutriment and leaves almost no residue in the bowel. In addition to this, an occasional teaspoonful of freshly expressed beef juice and a few drops of brandy may be given.

When the symptoms of catarrh of the large intestine greatly preponderate, thorough irrigation of the bowel is beneficial, even in young infants. It may be practiced with lukewarm water, a weak solution of common salt or alum, mercuric chloride (1:4,000), or nitrate of silver. The latter two remedies should be used, I think, only for their action on such parts as may be reached by the introduction of a recurrent catheter, the sigmoid flexure and rectum, owing to the danger of their retention. In some cases I have injected, after a short interval succeeding the irrigation, from 1 to 2 ozs. of warm starch water containing from 1 to 5 drops of laudanum, in infants of an age to justify the experiment. A much needed night's rest has thus been secured and the tide of the disease effectually turned. This procedure is, of course, not to be thought of until all products of decomposition have disappeared from the stools. The same result, so far as arrest of the symptoms is concerned, would follow the administration of an opiate by the mouth, but, although this practice has received the sanction of high authority, I cannot discern its propriety; since with the beneficial action will occur an arrest of digestion. In extreme cases I have used hypodermatically minute doses of morphia with atropia. The worst cases that are encountered are those in which opium has been injudiciously used in the early course of the disease.

By no means the least difficult period in the management of the case is that of convalescence. As the more severe symptoms subside the little patient develops a ravenous appetite, the gratification of which is one of the most frequent causes of relapse. Weeks or months, rather than days, are to be consumed in the return to the diet of health. The first step in the gradual restoration of diet in those cases which have required the suspension of all food, is the gradual addition of milk to the artificial food, until the normal proportion is reached. This then should constitute the diet for several weeks.

Hygienic treatment must of course be pursued,

the chief item of which is frequent bathing. If circumstances permit, the removal of the child from the city to the country will greatly hasten recovery.

THE CLINIC.

UTERINE MYOMA—RENAL CALCULUS AND SURGICAL OPERATIONS UPON THE KIDNEY.

*A Clinical Lecture Delivered at the Regular Surgical Clinic at
Rush Medical College, Chicago, Thursday, Oct. 2, 1890.*

BY CHARLES T. PARKES M.D.,
PROFESSOR OF SURGERY.

(Concluded from page 52.)

If no information is gained by this examination, the kidney is fixed as much as possible in the wound by pressure through the anterior walls of the abdomen, and by forceps grasping the perinephritic tissue; then a grooved director is thrust through its substance towards and into the pelvis, which is examined thoroughly in all directions by changing the direction of the probe, until the stone is struck, or none is found. Of course, if, as in this patient, the tissue of the kidney and its pelvis is distended with pus, as soon as the director enters the cavity the pus will flow through its groove, as you see it does in this instance.

The blunt-pointed director is the best instrument to use in this trial; it, or any other cutting instrument, should always be introduced into the kidney some little distance above the lower end of the organ, on account of the frequency of the presence of the artery aberrans entering the organ at this point, and the free hæmorrhage attending the wounding of it. It is also said that fatal hæmorrhage has followed the use of the pointed aspirator used for this purpose, the needle being thrust so far forward as to puncture the main renal artery or vein.

No attempt should be made to fix the kidney by means of forceps attached to its substance, or by threads passed through it, because, owing to the structure of the kidney tissue—its softness and brittleness—they will surely tear out; no fixation will be obtained, merely unnecessary damage done the organ. It can sometimes be fixed very well by passing the finger behind it in the wound.

In case no pus escapes along the groove of the director, as not infrequently happens when the kidney is not much increased in size, and it is thought necessary to make further exploration, a scalpel is carried along the groove of the director through the substance of the kidney, making an incision large enough to admit the finger easily; the finger is passed through it into the pelvis of the kidney and a careful search made in all directions for the foreign body.

If the stone is of large size, filling and distending the cavity of the pelvis, the examination by palpation of its entire surface, as already described, will have probably discovered its presence; in which event the knife is carried directly through the substance of the kidney to the stone, and the proper incision made. If the stone is discovered by the use of the director, without any flow of pus, an opening is made by the knife sufficiently large to admit the finger.

In this patient, in which pus is found to be present, after the introduction of the director, the incision should be made as free as possible, not only for the removal of the stone, but especially to lay open freely the pouches which are so apt to be present in these cases. This will provide for free drainage and prevent the retention of pus in these pockets, as the kidney contracts after operation, leading to the occurrence of secondary abscesses so common in the history of suppurating kidneys.

How will you proceed after the finger has touched the stone, no matter by what method it has reached it? The calculus is carefully and slowly loosened from its bed, by keeping the pulp of the finger in contact with it, and pushing the investing tissue away from it by the finger nail carried in all directions, until the stone lies perfectly loose in the cavity. Then a pair of dressing forceps introduced along the finger, is made to seize the stone firmly, and it is drawn quietly and slowly through the wound until its removal is accomplished.

The directions about removing the stone are thus minutely given, because it is especially desirable to remove it entire, and thus avoid leaving any small pieces, which, owing to its brittleness, can be easily broken off. They often avoid the most rigorous search and become the nucleus, around which may form other stones in the future.

Besides, the calculi are frequently very irregular in shape, having off-shoots developing from the main stem, in different directions, like pieces of coral. These off-shoots are firmly embedded in the calices of the organ or accidental pouches, so that they are easily broken off, and may remain embedded in these pockets if any forcible attempts are made to withdraw the stone before it is entirely loosened by means of the finger.

Of course many times the stone or stones, are found loose in the pelvis of the kidney, or in the cavity of the abscess, or they are smooth of surface and even and regular in their development, in which case there is no difficulty attending their removal.

In this patient, you notice that I have considerable difficulty in loosening the stone which we have found, and I am compelled to enlarge the opening in the kidney very much, because the stone is of large size and very rough and irregular in its shape. Now I think I have it

loosened and the incision made long enough to allow of its easy exit. Introducing this pair of forceps, the stone is seized, and while extracting it slowly and carefully, with my finger I push the kidney substance away from its irregular surfaces. Unfortunately I have broken this piece in the grasp of the forceps, away from the main portion of the stone, which accident, not only spoils the beauty of the specimen, but shows you how brittle the concretion may be and how carefully it must be handled. There is no fear of this fragment causing any subsequent trouble because I have it on the outside. The stone is seized again with the forceps, at a larger, denser portion of its surface, and with the same careful method of extraction, it is finally removed entire.

The specimen is fully three inches long and over an inch in width at its widest portion. It is very irregular in formation and shows the presence of the offshoots, to which your attention has already been directed.

The hæmorrhage is very free following the first incision made into the kidney substance, but in my experience, it has never been hazardous or sufficient to cause any anxiety, for the pressure of the finger, introduced through the wound, soon causes it to cease.

The manner of treating the wound is different according to whether pus be present or not. If there be no pus and the kidney not much enlarged, very little special treatment is required.

A large size drainage tube, long enough to reach into the pelvis of the kidney, should be introduced and left for a few days to provide for the easy exit of bloody serum and urine, which will flow immediately after the operation and as a consequence of it. The external wound is closed up to the drainage tube, by means of interrupted silk sutures passed through all the tissues of the edges of the wound in the same manner as in the abdominal operation, although in this operation, there is no peritoneum to be included in them.

The drainage-tube prevents the probability of the occurrence of urinary infiltration.

After a few days clear urine will flow through the tube, when it can be removed and the resulting sinus will rapidly close and securely heal by cicatrization, leaving nothing to mark the occurrence of such a severe operation, but the external scar. The urine passed from the bladder, will show the presence of blood in a greater or less quantity for a few days, gradually resuming its normal condition. This symptom has its advantage, because it proves that the ureter is patent.

If pus is present, the several pockets in which it is apt to be contained are usually found to be separated from each other by incomplete trabeculae of connective tissue or kidney sub-

stance. These are broken down with the finger, thus converting the many into one cavity; this cavity is then thoroughly irrigated and washed with some mild antiseptic solution, such as boric acid or with sterilized water.

It is to be remembered, that solutions of powerful antiseptics, especially mercuric bichloride, contain in themselves the elements of extreme danger, in that they may poison the general system or seriously impair any normal tissue which may remain in the organ itself. Hence, if used at all, great care should be practiced and the cavity thoroughly washed out with sterilized water after their use. The use of bichloride of mercury sometimes leads to acute granular degeneration of the kidney.

The ragged portions of debris are then removed, and when thoroughly and satisfactorily cleaned, the cavity is packed to the bottom with iodoform gauze. No attempt being made to close the wound by suture. This treatment is advised, because it is my belief that it is least likely to be followed by secondary abscesses. In all conditions, the external dressing consists of the application of masses of loose iodoform gauze and borated cotton, held in place by a body bandage.

The operation, as you see, is prolonged, and hence likely to be attended with evidences of shock, therefore every provision should be adopted to counteract the dangers which accompany such conditions by the administration of quinine or whiskey before the operation; by keeping the patient's body covered with blankets during the operation and by providing artificial heat through radiation after the patient is put to bed.

The profession has come to the conclusion that chloroform is the best anæsthetic to use during all operations upon the kidney, but no matter what anæsthetic is used, the anæsthetizer should be careful to give as little of it as possible. Often allowing the patient to breathe freely of fresh air, by the removal of the cone, in this as well as in all operations which are prolonged and exhaustive in character.

Kidney stones are developed from the salts of urine, which are normally held in perfect solution and are oftenest found to consist of the crystals of uric acid. Many are made up of oxalate of lime, while some are composed of phosphatic salts. They are found in both sexes and at all ages of life; they vary immensely in number and size, thus they may be so small as to pass easily through the ureters when loosened, and escape from the bladder; or so large as to change very greatly the shape of the kidney which is expanded about them. In form they may be smooth and even, or rough; or possess the greatest diversity in shape and irregularity of surface.

The symptoms indicating their presence have already been described to you as forming the history of an agonizing attack of renal colic. Still there may be no signs present indicating their existence, other than a steady, persistent, deep-seated pain, sometimes burning in character, referred to the region of the kidney, accompanied by the persistent presence of blood or pus in the urine. The suffering in these cases bears no relation to the size of the calculus—one patient from whose kidney I removed a concretion not larger than the end of the little finger, suffered repeatedly with excruciatingly severe attacks of renal colic, while in another with a larger calculus than the one removed to-day, the pain during such attacks was not severe.

These formations may take place in both kidneys at the same time, and when this occurs there is great difficulty in forming a conclusion on which kidney to operate, or whether to resort to surgical interference or not.

In all these cases, the microscopical examination of the urine is very apt to show the salts of which the stone is composed, present in the urine in large quantities.

If there is present a tumor in the region of the kidney, with the history of previous attacks of renal colic, there can be no doubt as to the diagnosis, and surgical interference should be practiced.

Treatment.—The treatment of these cases must be considered under three heads: prophylactic, palliative, and surgical. The latter has been illustrated to you in the operation performed upon the patient before you.

Prophylactic treatment consists in directing your patient's diet—avoiding the use of meats; and advising the free use of water, especially such mineral waters as are known to have a beneficial effect upon the condition of the system, termed lithiasis. The mineral water possessing the best effect is probably the one containing a large per cent. of the salts of lithia. It is my belief that large quantities of distilled water are beneficial. It is generally supposed that people living in countries in which the water used for all purposes contains a large portion of lime, are most likely to suffer from these troubles. It is also supposed that in children poor and improper food accompanied with faulty assimilative powers, have much to do with the production of the disease.

The palliative treatment has reference particularly to the management of the attacks of renal colic, the pain of which is controlled by the use of the preparations of opium, particularly the hypodermic injection of morphia, in doses of such size and sufficiently often repeated as is required to control the pain.

Frequently in severe attacks the careful administration of chloroform or ether to partial or com-

plete anesthesia is necessary to at least temporarily assuage the patient's agony until the foreign body has passed the ureter.

Hot fomentations freely applied over the painful area and the use of hot baths are beneficial. We know of no remedy, the administration of which through the mouth, will dissolve or in any way diminish the size of these renal concretions. No permanent relief can be given in any other way than by the removal of the offending body by surgical interference.

Renal calculi occasionally become lodged in some portion of the ureter; the most common place of stoppage seems to be near the point of termination of the tube in the bladder: at least quite a number of instances are on record in which the calculus forming in women, has been located in this position by vaginal examination, and their removal attained by operation.

If the stone becomes arrested at other points and cannot be located as in women, catheterization of the ureters can locate it; or if the kidney has become exposed in search of it, the passage of a sound from above will fix its position. When found it must be, and can usually be safely, removed by any operation which will expose its position. Of course any operation for this condition should be post-peritoneal.

The urinary fistula following such procedure is not usually permanent, but heals kindly and rapidly; every precaution for free drainage should be used to prevent urinary infiltration into the loose tissues in which the necessary incision is made.

Suppuration in the kidney and accumulation of pus dependent upon any other causes, such as tuberculosis or other degenerative changes, sometimes lead to the formation of various enlargements or tumors of the kidney which fluctuate freely.

The condition of distention of the kidney substance and its pelvis with pus, is technically called "pyo-nephrosis," and for its relief requires exposure of the kidney in the manner just illustrated. The abscess is then opened by free incision through the kidney. This operation is called nephrotomy. The treatment after the incision is the same as for cases of stone with pus accumulation. A similar distention, frequently reaching great size, follows injuries or diseases which occlude the ureter and there occurs the formation of a fluctuating tumor, the contents of which are clear, pale in color, and contain a slight evidence of the presence of urinary salts. This condition is called "hydro-nephrosis."

While the pus cases always show severe constitutional disturbance, with sweatings, chills, high fever, and other evidences of septic infection, hydro-nephrosis causes very little or no trouble until the increase in size calls attention to the tumor, and produces a varying amount of discomfort.

Aspiration, with a complete emptying of the cyst (for the kidney substance is so attenuated and thinned out it forms nothing but a cyst wall) will sometimes cure a hydro-nephrosis, at other times a cure will only follow free incision and drainage of the tumor by means of a nephrotomy.

In cases of pyo-nephrosis, as the result of pressure necrosis or ulceration from accumulation, the capsule of the kidney is destroyed and the pus leaks out into the surrounding cellular tissue, forming a peri-nephritic abscess, with the local signs of bulging of the space between the rib and crest of the ilium; with hardening and infiltration of all the tissues of the back in this space; with redness of the surface and oedema and finally circumscribed fluctuation. The abscess points and breaks of its own accord or the surgeon incises it. Sometimes the opening in the kidney can be found, at other times not. If a fistula persists after the opening of the abscess, always suspect the presence of a calculus in the kidney. Expose and remove it by the proper surgical operation.

Pyo-nephrosis and hydro-nephrosis are classified under the head of cystic tumors.

There occasionally forms in connection with the kidney, simple serous cysts, and also those dependent upon the presence of the echinococcus or hydatid. Both of these conditions are successfully treated by exposing the tumor, incision and drainage or sometimes by simple aspiration.

It is quite surprising how seldom urinary fistulae persist even after very extensive incisions and bruising of the kidney. The urine may flow through the wound in the back for a few days or weeks, but if the ureter is patulous, they are quite certain to close. Wounds of this organ heal quite as rapidly and as permanently as those of any other tissue of the body.

The operation of nephrectomy or complete removal of the organ, is a very serious one primarily, and has dangerous sequelae attending it, even if the patient recovers from the operation, for the remaining kidney, called upon to do double duty, is particularly liable to the occurrence of diseases apt to be fatal.

It should always be remembered that the abnormality of one kidney is not very infrequent, or that the two may be joined together in the peculiar formation of a horse-shoe kidney, sometimes found present. A nephrectomy under these conditions would necessarily prove fatal. The operation should not be advised or undertaken except under the most pressing need, that is, in cases in which the disease or injury is of more menace to the life of the patient, than this hazardous operation.

It should also be remembered that even in advanced disease of the organ, in many cases, there still remains a considerable portion of the kidney substance, able to perform a portion of the normal

function of the organ; a patient with a badly damaged kidney, is in less danger, if some portion remains to do duty, than after the entire removal of the organ. Every means possible should be resorted to, to determine the existence of the abnormality of one kidney before the operation is done. Some surgeons recommend the catheterization of the ureters, in order to establish this fact; others favor what is termed abdominal incision—*anterior operation*—so that after opening the abdomen both kidneys can be found, before either is removed.

The first successful nephrectomy was done by Simon, of Germany, for an incurable fistula following a difficult parturition.

The disease for which the operation is recommended, are destruction of the kidney from suppurating resulting from any cause; or tuberculosis, if confined to one kidney; or cysts otherwise incurable; for the removal of solid tumors developing in this organ, and for such injuries as are followed by a persistent and incurable fistula; or which absolutely destroy the organ itself, such as gunshot wounds.

The solid growths which we find developing in the kidney are, rhabdo-myoma, adenoma, papilloma, carcinomas and sarcoma; the sarcomas and rhabdo-myomas occur oftener in infancy or childhood. Adenomas and carcinomas are growths oftener found in adult life. The sarcomas develop very rapidly and grow to a large size. Their removal is attended with many difficulties, and even if not primarily fatal, does not add materially to the patient's tenure of life. The same is true with the carcinomas with the exception that they never attain a great size, because their malignancy leads rather early to a fatal issue.

The adenoma are simple tumors; can be removed safely, and the patient's life may be prolonged in comfort for years.

There are two methods of performing a nephrectomy: first, the lumbar; second, the abdominal. The lumbar is the one most commonly chosen; the operative manipulations are executed outside the peritoneum; free and perfect drainage is easily carried out; and for these reasons it is best adapted for cases of suppurating in the kidney, and all tumors of moderate size.

The abdominal method is of diagnostic value in enabling the operator to at once decide positively that both kidneys are present; it necessitates an abdominal section, hence opens the peritoneal cavity—and no drainage can be practiced unless a counter opening is made through the loin. It is best adapted to the removal of tumors of large size, as it allows perfect control of the growth. The dangers attending both operations are first, hæmorrhage; second, infection; third, uræmia from insufficient elimination of urine; fourth, shock.

Hæmorrhage can be avoided by special care in the management of blood-vessels; sepsis prevented by the usual aseptic or antiseptic precautions rigorously carried out; uræmia counteracted by elimination and derivation through other emunctories; and shock diminished to a great extent by free stimulation and protection of the patient from loss of body heat.

The lumbar incision for nephrectomy calls for exactly the same incision in all its details, as the one just practiced before you to-day, carried so far as to expose the tumor. After the organ is exposed it is loosened with the finger from its bed of perinephritic fat. As soon as this is accomplished, the blood-vessels entering the hilus are carefully isolated and a needle armed with a double ligature of sterilized silk is carried between the vein and artery, through the pedicle made by these vessels, dividing it into halves, and it is securely tied. The ureter is then sought after, temporarily secured with forceps and divided between them. The pedicle is then cut through, sufficiently far away from the ligatures not to endanger their security, and the kidney is removed.

In cases of suppurating kidney, the organ is often so firmly imbedded in vascular adhesions that bleeding is dangerously free during its separation. If this be the case it is best to ligate the main vessels first.

After the removal of the organ, the ureter may be managed in either of two ways. Its free end is made thoroughly aseptic by the application of the actual cautery or pure carbolic acid, and it is drawn out and fastened to the most dependent part of the external wound; or its extremity may be inverted into its lumen, like the finger of a glove, and the peritoneal edges fastened by sutures.

Quite large and vascular growths of this organ can be safely removed through the lumbar incision, by first securing the base of the mass with a temporary rubber ligature, drawn tight enough to close the blood-vessels. The tumor is then cut away piece-meal without bleeding until it is so far reduced in size that the permanent ligature may be easily applied inside the rubber tube, in the usual manner. The elastic tube is then removed.

Some operators include the ureter and the blood vessels in the same ligature, but the better plan seems to be to tie them separately.

If no pus is present, the wound is perfectly closed after providing for drainage by means of a large-size drainage tube. If pus is present, the wound is best treated by the iodoform tampons as already described and illustrated to you to-day.

The dangers of this operation are increased by opening the peritoneum, and this accident should be carefully avoided.

When the abdominal method is practiced, an

incision is made through the linea semi-lunaris in the usual manner common to all operations which open the peritoneal cavity. The intestines are pushed out of the way by means of a large flat sponge.

As the tumor is behind the posterior layer of the peritoneum, this layer, too, must be incised before the tumor is exposed. The colon, in these cases usually lies on top of the tumor, and the incision which opens the posterior layer of the peritoneum should be made some distance away from the outer edge of the colon and parallel to it. It must be of sufficient length to allow the operator to have complete control of the tumor, and to provide for its easy removal. The sponge is then withdrawn; and the inner edge of the incision of the posterior layer of the peritoneum is sewed securely to the inner edge of the incision through the abdominal walls; in this way shutting off completely the peritoneal cavity from the field of operation. The blood-vessels entering the tumor are now sought after and ligated. The ureter is found and secured temporarily by forceps, the tumor separated from its attachments and removed.

It is just as well if the tumor is rather large and the space limited, to secure the blood-vessels temporarily by long jawed forceps, as they can be ligated inside of these after the removal of the tumor.

It seems best to always provide for drainage through the posterior lumbar region; this can be easily done and without fear of hemorrhage by thrusting a pair of scissors directly backwards to the interval between the last rib and the crest of the ilium and expanding their blades to make an opening through which a large drainage tube can be easily drawn.

The ureter is managed in either of the ways that have already been described in the directions for lumbar nephrectomy.

After the tumor is removed and the manipulations mentioned are satisfactorily carried out, the edge of the posterior layer of the peritoneum which was sewed to the abdominal wound is unfastened by snipping the sutures. The sponge is again used to keep the intestines out of the way while the incision in the posterior layer of the peritoneum is secured closely by means of the continuous catgut suture, thus perfectly isolating the peritoneal cavity from the large space recently occupied by the tumor. The abdominal wound is sutured in the usual manner, the sponge removed, and the external wound closed.

Nephrorraphy is the name given to the operation practiced for the relief of the symptoms accompanying a freely movable kidney.

It has only been during a few years past that the profession has adopted the belief that any operation is required for the cure or attempted cure of such cases. It is possible that it can be justly

said that it is only within a few years that the condition of a movable kidney has been recognized as the cause of a certain array of symptoms which interfere materially with the health and comfort of a patient suffering with this affliction.

Such patients as have come under my care have complained of quite serious trouble and have shown well marked evidences of failing health. All of them have become aware of the presence of the movable body and have insisted that the movements of the organ were the cause of much pain, at times even severe, and that the stomach was disarranged in its function—that the appetite was either lost or very much impaired—and that they had lost flesh noticeably and rapidly.

All of these cases had borne children—no doubt the condition occurs oftener in women who have borne children, still the condition is met with in men.

We know that normally, the kidney is not absolutely fixed in its position—that it is movable to a slight extent in its surrounding loose cellular tissue. For some reason or other after extreme distension of the abdomen its mobility becomes increased in these cases, occasionally to a considerable degree; a true meso-nephron is developed, at the end of which the organ has a range of motion in proportion to the length of the peritoneal fold. Probably such cases as possess a complete meso-nephron are the ones in which the severest pain is felt; which may be due to a twisting of the vessels and the ureter.

In some cases the kidney can be displaced downwards as far as the ilium, or inwards as far as the median line. It moves upon the slightest touch, and can always be replaced into the position in the back which it properly occupies.

The well known shape and contour of the movable kidney can usually be readily palpated with the fingers through the loose and flabby abdominal walls, and hence as a rule can be positively differentiated from any other growth.

If the kidney is only movable in the loose post-peritoneal fat, even if the area of motion is considerable, the operation for its relief is much more simple than in the cases in which the kidney is invested on all sides by the peritoneum, and has a long meso-nephron developed from this tissue.

In the first condition, probably a nephrorraphy will bring about a cure; in the latter, probably a nephrectomy will be required if any operation is demanded.

Most often the kidney is normal in every way except its freedom of displacement. At times it is diseased and enlarged, and this may necessitate the more radical operation. The long meso-nephron makes it very difficult or quite impossible to uncover the posterior surface of the kidney for the application of sutures without opening the peritoneum, an accident to be avoided.

This condition greatly increases the difficulty of finding or fixing the organ at the bottom of the wound made to expose it.

The prognosis as to the operation is favorable—in the matter of permanent cure it should be guarded. The operation has not been done often enough, the cases subjected to operation have not been sufficiently long under observation in all instances, to enable us to speak very positively about them. In my experience, they have all been noticeably improved at first, the appetite has been better, the food better assimilated and the pain relieved. But this favorable result followed during the confinement of the patient in the recumbent position, with little or no disposition to displacement or interference with the organ.

It remains yet to be seen whether the adhesions formed as the result of the operation, are sufficiently firm to withstand the weight of the organ and the influence of the movements of the body, when the patient assumes the erect position and performs ordinary duties.

It is quite fair to mention the fact that quite a number of cases have been reported by surgeons, in which, even after a lapse of two years, there has been no return of the displacement, and the general health of the patient has been permanently benefited. The primary incision for nephrorrhaphy is exactly similar, in all details, to that already illustrated to you to-day for exposing the kidney in the nephro lithotomy just finished. As soon as the perinephritic fat is uncovered, the kidney is found. Usually the assistant is able to fix the kidney in its normal position, by pressure against the organ through the anterior abdominal walls, so that it can be easily exposed to view by separating and displacing the surrounding fat. The posterior surface should be widely uncovered. Its capsule should then be incised for a length of two inches, and the edges of the divided capsule stripped off the surface for a short distance in opposite directions so as to uncover the small portion of cortical substance. Then the edges of the elevated capsule should be sutured with silk to the edges of the deep portion of the external wound. The needle should be full curved with a blunt edge, and it should be introduced so as to take up a fair amount of the kidney substance. It should be introduced very carefully, as the kidney substance is very soft and brittle, and easily torn; the silk suture should be drawn carefully after the needle, and without any tension on the kidney, for it is easily torn through the included portion of the organ.

Sutures should be placed, at least, at the upper and lower ends of the opening in the capsule, and a third or fourth one may be applied near its center. When these sutures are satisfactorily in place, the external wound should be closed, as has already been explained and illustrated, ex-

cept that a narrow strip of iodoform gauze is to be placed in the centre of the wound, reaching from the exposed surface of the kidney to the outer surface of the body. This strip of gauze is left in position for some time, and is said to answer the excellent purpose of establishing a band of cicatricial tissue from the surface of the kidney to the outer surface of the wound, permanent in character, which acts powerfully in fixing the organ in position. In one case in which I adopted this plan, there remains in the centre of the scar a deep depression, which draws the skin inwards, and is no doubt produced by the cicatricial track left by the gauze used in this way.

The external dressings, the same as those applied in the case before you to-day, are designed to keep the wound perfectly aseptic until the healing process is complete.

The wound-stitches can be removed at the end of the week, when, if the case has followed a course free from infection, the wound will be found united. The deep stitches have given rise to no trouble in the cases operated upon by myself, and are left to take care of themselves.

The patient should be confined to the recumbent position for several weeks, so as not to interfere by dragging upon the newly formed and easily torn adhesions.

Some surgeons claim that they are able to control all the symptoms incidental to the presence of a movable kidney, without operation, by a properly fitting pad applied to the abdominal wall against the organ, after returning it to its normal situation, and holding the pad in position by a body bandage.

The operation of nephrorrhaphy is not a dangerous one, and further experience with it may give to it a definite and positive position among the surgical operations upon the kidney.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

SALICYLIC ACID FOR THE PREVENTION OF SCARLET FEVER.—In the *Centralblatt für klinische Medizin*, for October, are quoted by DR. G. STICKER, some of the clinical experiences of Dr. G. de Rosa, an Italian physician, in an effort to curtail an epidemic of scarlet fever by the internal administration of salicylic acid. Out of sixty-six children exposed to infection—twenty-seven patients being down with the disease in the same building—only three contracted the fever, after the salicylic plan of treatment had been put into operation, and in these three cases, the failure was ascribed to the fact that there had probably been a longer exposure to the infection than in the other set of cases. It is recommended that

the drug should be given promptly after there has been danger of infection, the dose being one to five grains daily until the exposure has passed by. Isolation is not regarded as necessary, if all susceptible material shall be brought promptly under the influence of the drug.

KOCH'S TREATMENT OF TUBERCULOSIS: GENERAL EFFECTS.—In a clinical lecture delivered at the Hôpital Laënnec on December 14, PROF. CORNIL (*Semaine Médicale*, December 17) gave the results of further observation of the cases in which he had employed Koch's treatment. With regard to the three patients in whom the first injection had caused albuminuria—in two of them there was then (a fortnight after its first occurrence) no trace of albumen in the urine; the third still showed slight traces thereof, but it is not quite certain that he was entirely free from it before the treatment was begun. In the case of another patient suffering from diabetes and calculous pyelo-nephritis, as well as tolerably advanced phthisis, the urine became rather less purulent after the injection of very small doses. These cases seemed to M. Cornil to show that the renal complications caused by Koch's fluid are merely temporary, and that, even when the kidneys are diseased, the treatment is not absolutely contraindicated, although it must be used with extreme care. With regard to the reaction, Prof. Cornil pointed out that it is a mistake to suppose that after the injection the temperature simply rises to a greater or less height, and then falls to the normal point. In his cases the temperature was taken on the rectum every two or three hours. In one case an injection at 11 A.M. was followed at 7 P.M. by a temperature of 39.4° C. Two hours later it had fallen to 37.4° C., but on the following day, though no further injection had been given, it again rose 39.5° C., afterwards falling gradually and with slight oscillations to normal. The type was that of quotidian fever, lasting two days. In a second case an injection of three milligrams sent the temperature up to 40.8° C. on the second day, to 39° on the third day, and to 39.5° on the fourth, the record being almost normal in the intervals. It was, in fact, an example of intermittent quotidian fever lasting three days. In a third case, that of a child, the injection at first caused a slight fall of temperature, and it was not before the third day that it reached 39.4° , after which defervescence took place gradually. These three patients suffered from circumscribed lupus of the face, and were all in good health, without any abnormality of temperature before the treatment. M. Cornil insists that these irregularities in the course of the reaction should be borne in mind, and that a sufficient interval should always be allowed between the injections so as to avoid any danger of cumulative action. In a patient suffer-

ing from lupus erythematosus the general action was extremely intense, while there was no sign of local reaction. In six patients suffering from syphilitic lesions, inoculated by M. Humbert in the Hôpital du Midi, no reaction took place. M. Cornil then gave a summary of M. Hénocque's spectroscopic examination of the blood (see abstract, p. 98), and expressed the opinion that the amount of oxyhæmoglobin gives a fair measure of the effect of the injections, and adds that it cannot be doubted that where it is diminished the patient's general condition becomes worse, and it may be concluded that the injections are doing harm. While not venturing as yet to pronounce a final judgment on the value of the method, Prof. Cornil says that with proper care there is little risk of doing any harm to patients by the injections; that in certain forms of tuberculosis, notably in lupus, "appreciable improvement" is produced; and therefore a further trial of the treatment is justifiable.—*Brit. Med. Jour.*

HYPNAL.¹—Tersely told, hypnal is the product of combining equal parts of hydrate of chloral and antipyrine. It is an oily liquid of ether odor and chloral taste. Brought out last year in France, by Blainville, it was noted later by Behal and Choay, who found three distinct compounds, one of which was worthless; the others were called monochloral antipyrin and bichloral antipyrin. Reuter, testing one, gave it the dreadful name of mono-tri-chloral-acetyl-dimethyl-phenyl-parazalone, and declared it inert. He, however, used the non-active product. Dr. Bardet, of the Cochin Hospital, made the first medical experiments, and—Heaven bless him!—called it hypnal. He reported twenty-two cases in which one-gram (fifteen-grain) doses acted well as a sedative, soporific, and anodyne, and especially useful in insomnia due to cough or pain.

Frankel—whose paper in the September number of the *Bulletin gén. de Thérapeutique* is the latest from foreign sources—after thirty-three trials, wrote in its favor. Schmidt commends it; so, too, Quintard.

The consensus of opinion among Continental observers is that hypnal is an efficient sedative, soporific, and analgesic; it is more hypnotic and less depressing than chloral; it is not caustic like chloral nor irritant like antipyrin, and it is more readily taken, being more tasteless than either.

On respiration it is much like chloral; on circulation it is less disturbing than chloral. It is antipyretic, and non-irritant by mouth, bowel or skin. It is said to be particularly adapted to children, and to patients with phthisis, lessening fever, pain, insomnia, and unrest. Schmidt found that fifteen grains equalled, in sleeping effect, about nine grains of chloral.

¹ Selections from a paper read before the Medical Society of the County of Kings, by J. B. Mattison.

The dose named by writers noted is fifteen to thirty grains. I have given fifteen to sixty by mouth, double if by bowel, and fifteen hypodermically. It can be given in capsule or solution—preferably the former. If the latter, twice the amount of alcohol should be added to the elixir of syrup. By bowel, in gum arabic. Subcutaneously, direct. Convenient formulæ:

R—Hypnal, ℥ xv.

Alcohol, ℥ lx.

Elixir or syrup, ad ℥ cxxl.

M. Sig.: One dose; one-third tumbler water after.

R—Hypnal, ℥ xxx.

Mucilag. acaciæ., ʒ j.

M. Sig.: One injection.

R—Hypnal, ℥ xv.

M. Sig.: One dose, hypodermically.

—*Medical Record.*

RESORCIN IN DIPHTHERIA.—ANDEER has recently collected evidence in regard to the usefulness of resorcin as an antiseptic, and especially with reference to its employment in diphtheria.

Recent investigations have shown that this drug is a very active antiseptic, and harmless even in solutions containing 10 per cent. of it. A 10 per cent. solution in glycerine penetrates the tissues rapidly. At the St. Lazare Hospital it has proved serviceable in diphtheria.

It should be used every one or two hours, day and night, locally to the diseased spot. A spray of a 5 per cent. solution should be kept up in the patient's room, and further, two to four teaspoonfuls of a 2 per cent. solution of resorcin in syr. terebinth. should be administered daily.

In diphtheria of the larynx resorcin is of little value.—*Centralblatt f. d. gesamte Therapie*, Heft. 9, 1890.—*Am. Jour. Med. Science.*

Medicine.

THE EFFECTS OF EXTIRPATION OF THE PANCREAS.—DR. BOCCARDI, of Naples, remarking that, though a good many researches have been published by various observers of experiments in which the pancreas has been removed with the result of producing glycosuria, no detailed account of the pathological condition of the tissues and organs had appeared, determined to remedy this defect in our knowledge, and undertook a new research on the subject in the anatomical institute of the Naples University. A preliminary note has just been published by him in the *Riforma Medica*, in which he describes the anatomical appearances in animals after deprivation of the organ in question. All or nearly all were greatly emaciated, notwithstanding plenty of nutritious food after the operation. No boils or other cutaneous affections were found. There were no morbid changes in the salivary glands, nor in the oesophageal and buccal glands, nor were there any modifications in the conditions of renewal of the glandular elements. There was

little or no change in the stomach. Brunner's glands were always normal, but Lieberkuhn's glands in many cases presented an increase in the karyokinetic changes of their epithelium; sometimes the epithelium was much enlarged and altered, goblet cells being only discoverable at rare intervals, and the whole had somewhat the appearance of Brunner's glands. There were practically no changes in the oesophagus or in the nervous elements in the coats of the digestive tract. The liver always presented morbid changes, even in a dog which had been operated on only four days before it was killed, and had only just begun to pass sugar in the urine. Most frequently these were fatty degeneration and simple atrophy; sometimes also there was a vacuolar condition of the cellular protoplasm, ending in complete destruction of the cells. The hepatic blood-vessels were frequently distended and filled with blood, and sometimes small hæmorrhagic spots were seen. The spleen, thyroid, and suprarenal capsules did not present any definite morbid changes. In the kidneys only slight and occasional changes were found. There was never any glycogenic infiltration of the epithelium; this condition also was entirely or almost entirely absent in the liver. Herein Dr. Boccardi believes the main distinction lies between natural and artificial diabetes. The cardiac plexus was normal. In six out of twelve cases examined there was atrophic degeneration of the pyramidal tracts of the spinal cord, most marked in the neighborhood of the cervical enlargement. No neuritis or degeneration was found in the splanchnics or pneumogastriacs, or in the anterior and posterior roots. In one case only was any morbid change detected in the sciatic nerve. No important change was found in the brain or medulla, or in the muscular system. It would thus seem that various lesions are produced in a short time after the extirpation of the pancreas. The state of the spinal cord would appear to be of special interest in the light of Charcot's recent researches.—*Lancet.*

POINTS TO BE OBSERVED BY ELDERLY MALES.

—DR. R. HARRISON offers the following advice to elderly men: 1. To avoid being placed under circumstances when the bladder cannot be emptied at will. Nothing is so bad for a large prostate, though it may be working satisfactorily, as an enforced retention. It is often the first cause of a permanent atony. 2. To avoid checking perspiration by exposure to cold, and thus throwing additional work on the kidneys. In climates like our own, elderly persons should, both in summer and winter, wear flannel next the skin. 3. To be sparing of those wines and spirits (if used at all) exercising a marked diuretic effect either by their quantity or quality; select those which promote digestion without

palpably affecting the urinary organs. A glass of hot gin and water, or a potent dose of sweet spirit of nitre, will not do anything to remove the residual urine behind an enlarged prostate. 4. To be tolerably constant in the quantity of fluids daily consumed. As we grow older our urinary organs become less capable of adapting themselves to extreme variations in excretion. Therefore it is desirable to keep to that average daily consumption of fluids which experience shows to be sufficient and necessary. How often has some festive occasion, where the average quantity of fluid daily consumed has been largely exceeded, led to the over-distention of bladder long hovering between competency and incompetency. The retention thus occasioned by suspending the power of the bladder, has frequently been the first direct step toward establishing a permanent, if not a fatal, condition of atony or paralysis of this organ. 5. It is important that from time to time the reaction of the urine should be noted. When it becomes alkaline or offensive, the use of the catheter may be necessary. When a catheter is required it is most important that its selection should not be left entirely to the instrument-maker. There are other points to be considered beyond the fact that it is to serve as an artificial outlet for the urine from the bladder. An unsuitable catheter in a prostatic case may do much permanent harm. 6. Some regularity as to the time of performing micturition should be inculcated. We recognize the importance of this in securing a regular and healthy action of the bowels, and though the conditions are not precisely analogous, yet a corresponding advantage will be derived from carrying out the same principle in regard to micturition.—*Medical Press and Circular*.

Biology.

ANTAGONISM BETWEEN BACILLI OF ANTHRAX AND "BLUE PUS."—DR. N. BLAGOVESTCHENSKY (*Annales de l'Institut Pasteur*, Tome iv, No. 2, November, 1890), gives an account of some experiments of which the following are the most important results: Simultaneous inoculations into the anterior chamber of the eye of the rabbit with the bacillus pyocyanus and anthrax bacillus are accompanied by a destruction of the latter, the animal not succumbing to anthrax. Such inoculation does not, however, except in very rare cases, render the animal immune from a later attack of anthrax. If the bacillus pyocyanus and the anthrax bacillus are not inoculated at the same point the effect of the pyocyanus bacillus is less marked, and more of the animals die from anthrax. When anthrax spores are introduced along with the blue pus bacillus their development is interfered with. As the result of many experiments the author concludes that the sterilized products of the blue pus bacillus can, as

Woodhead and Cartwright Wood pointed out, influence to a certain degree the development of the anthrax bacilli, but that it requires a considerable quantity to effect this result, as where the inoculations were made into the eye simply, the quantity of blue pus products was small and many of the animals succumbed to anthrax. He also shows that even outside an animal the blue pus bacilli exercise a very marked inhibitory action on the development of anthrax bacilli, and he explains the fact that his experiments do not agree with Freudenreich's by the assumption that Freudenreich was working with cultivations of too great an age, as exceedingly young cultivations and very old ones (more than five weeks) appear to have little retarding effect on the development of spores or on the growth of bacilli. From other experiments that he made in moist chambers, he is convinced that the substance that inhibits the action of the bacillus is a volatile substance that readily escapes on exposure to air. He gives full descriptions of sixty-seven most careful experiments, all of which were made under Metchnikoff's guidance and advice.—*Brit. Med. Jour.*

ACTION OF LIVING BLOOD ON BACTERIA.—PROF. BONOME has recorded the results of his researches on the following points: Whether physiological alterations in the blood play any part in modifying its destructive action on bacteria; whether it is possible to produce alterations in the composition of the blood of such a nature that the normal inimical action against bacteria may be altered; and whether it is possible to derive any reliable data that will throw light on the subject of immunity. As a result of his experiments he comes to the conclusion that staphylococci introduced directly into the blood are destroyed in from ten to twenty-five minutes; more rapidly in the blood of young rabbits than in older animals of the same species. He then, by injecting the poison obtained from the pus of an old empyema or a chronic abscess in small quantities into healthy rabbits, proved that the bacteria-destruoying activity of the blood is increased, the organisms used being staphylococcus aureus, albus and citreus. He holds, however, that the introduction of such poison does not appear to exert any influence upon the similar activity of the fixed tissues. Poison from acute pus obtained in a similar manner appears to exert not the slightest influence on the destructive action of the blood; while, owing to its effect upon the tissue-elements, it diminishes their power of destroying such organisms as the staphylococci above mentioned. Similar poison from pyogenic staphylococcus cultures does not increase this destructive power of the blood against the above-mentioned organisms, and any immunity that is produced depends not on the rapidity and certainty with which the blood destroys the organisms introduced into its stream, but

rather upon a greater resistance which the tissue elements exert against the bacteria poison, when they have become accustomed to the action of the poison by remaining in contact with the metabolic products of the same bacteria. He also gives experiments to show that water injected into the veins can diminish this destructive activity of the blood to a certain extent, but never completely; for, although the animals so injected and control animals died about the same time, those in which water had been injected usually showed small purulent deposits in the kidneys and myocardium, and more or less fatty degeneration of the epithelium of the kidneys, so that he considers that, in addition to this slight diminution in the destructive activity of the blood, there is some alteration of the protoplasm of the cells, probably due to the absence of salts and the cutting off of the full oxygen supply by the presence of water, by which their resistance is considerably diminished in certain areas, and owing to which they are more readily attacked by the injected staphylococci.—*Brit. Med. Jour.*

Bacteriology.

EFFECT OF HIGH TEMPERATURE ON THE TYPHOID BACILLUS.—DR. JANOWSKI (*Centralbl. f. Bakt. u. Parasitenk.*, Bd. viii, Nos. 14 and 15, 1890) in the course of his experiments on the action of high temperature on the typhoid bacillus, says that, with the exception of Sternberg's experiments, there are none that can be taken as entirely satisfactory, the results being vitiated by more or less imperfect methods. By the use, however, of a double-walled vessel, the inner chamber containing water, the outer a layer of hot air, and the outer wall surrounded by felt, except where the Bunsen is applied to heat the air, he obtained a vessel in which the radiation and conduction were so equalized that the water remained at the same temperature throughout for a considerable length of time. By placing test tubes within this chamber, and heating the gelatine contained in them to a required height before introducing the material to be tested, he was able to get extremely satisfactory results. Using typhoid bacilli grown for three days on gelatine, or from four to five days on potatoes (so that spores might be present), he exposed these to various temperatures, ranging from 40° up to 80° C., for periods of from five to ten minutes, and then made "tube-plate" cultivations according to Esmarch's method. Down to 55° C., when exposed for ten minutes, the cultivations were always sterile—that is, the bacilli had been destroyed, but 55° C. for five minutes was not sufficient to prevent their germination when again placed under favorable conditions. In only one case, after an exposure to 56° C. for ten minutes, were three colonies developed. In all other cases complete destruction of the typhoid bacillus was

obtained at this point, and he therefore looks upon 56° C. as the temperature fatal to its development. In this, his experiments agree with Sternberg's. As regards low temperatures, from a large number of experiments that he made on typhoid bacilli, both by submitting these to natural and artificial cold, in broth, and dry on threads, he came to the conclusion that, although the results vary somewhat in different cases, according to the conditions in which the bacillus exists during the period that it is exposed to the cold, the extreme degree of cold, especially when continued for some time, or where frequently repeated, has a markedly injurious effect upon the vitality of the typhoid bacillus, a temperature of -14° C. being sufficient completely to destroy the bacillus in a fluid medium. In the dry condition this does not always hold good.—*Brit. Med. Jour.*

Otology.

MICROBES IN OTITIS MEDIA.—DRS. A. MAGGIORA and G. GRADENIGO (*Centralbl. für Bakt. u. Parasitenk.*, Band viii, No. 19, October 30, 1890), mention the results of researches of previous authors, and then give their own methods of examination. They find that by covering and plugging the end of a silver sterilized Eustachian catheter, it may be passed into the Eustachian tube, without becoming contaminated by the nasal mucus. The plug is withdrawn by means of a thread, and a celluloid bougie—which had been sterilized by repeated energetic rubbing with sterilized cotton wool—is introduced for at least 1 centimetre into the tube. The bougie is withdrawn, and then placed in tubes containing gelatine and agar, and plate cultivations are prepared in the ordinary manner. In thirteen cases of chronic middle ear catarrhal inflammation with thickened membrane, fifteen ears were examined with the following results: *Micrococcus caudicans* was found in six out of the fifteen cultivations; *saccharomyces roseus* in four; *saccharomyces ellipsoideus*, *bacillus subtilis*, *micrococcus cereus albus*, *penicillium glaucum*, and *diplococcus citreus conglomeratus* in two each; *sarcina lutea*, *micrococcus citreus* (II), *bacillus albus*, *micrococcus cereus flavus*, *sarcina alba*, *merismopedia aurantiaca*, and *micrococcus opalescens* in one each. In one case nothing was found, and in one non-pathogenic organisms that liquefied gelatine were met with. The authors conclude that in the later chronic or dry stages of middle ear inflammation there is no evidence of the presence of pathogenic organisms, as all those mentioned above may be looked upon as entirely innocuous. As regards the earlier stages, although there is nothing proved as yet, they consider it is quite possible that specific infective organisms may play some part, as their experiments are not at all inconsistent with such a condition.—*Brit. Med. Jour.*

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THE TREATMENT OF ACUTE ANÆMIA.

So plainly indicated a procedure as transfusion of blood would not be neglected were it not for the dangers which attend its execution. These dangers have again and again been illustrated in the practice of every advocate of direct transfusion, and the most enthusiastic of them have been compelled to abandon the method and substitute defibrinated blood or the injection or infusion of artificial solutions. So dramatic a procedure as direct transfusion of blood appeals to the common mind, and it is not wonderful that it has been urged and even practiced not only for acute traumatic anæmia, but for pernicious anæmia, for chlorosis, for the anæmia of the chronic infectious diseases, and for sepsis and old age.

Death in acute anæmia is due to an anæmia of the brain. This, in turn, may be the result either of failure of the heart to propel the properly oxygenated and nutrient blood to the brain centres, or to the deficient quality of the fluid still properly supplied. The heart itself is able to beat for some time after its nutrition has been wholly shut off. The failure of this organ in sudden loss of blood is due to the inadequate filling of its cavities, and the resulting mechanical incompetency of the motor apparatus of the heart. Thus we conceive the possibility of two forms of anæmia of the brain, the one quantitative, the other qualitative.

The blood and the lymph are found in the body in nearly equal proportions. Whenever there is a deficiency in one of these fluids that deficiency

is supplied from the other. The rapidity with which the loss of a small quantity of blood is restored has often been noticed. Even in twenty minutes after the loss of 10 per centum of the entire bulk of the blood, the arterial tension will have in this way nearly regained itself. Not so the quality. MICULICZ (1890) has shown by clinical experiment and observation that in the otherwise healthy the hæmoglobin, and presumably the corpuscles, are restored in a loss of 5 per centum of the blood, only after five days. An additional five days is required to repair the loss of each further twentieth. In his experiments on animals, ROSENBERG¹ found that a rapid loss of two-fifths the total quantity of the blood was usually borne; the loss of more than two-fifths and less than one-half was sometimes fatal, while the loss of more than one-half the blood was invariably followed by death. He also found that the subcutaneous infusion of a 0.6 per cent. salt solution temporarily resuscitated animals that had suffered a loss of more than one-half the total quantity of their blood, but that they invariably perished subsequently in spite of the infusion. This is certainly all very significant. HUNTER² has shown us the fate of intra-peritoneal injections of blood. Following such an injection the intravascular blood becomes rapidly concentrated from the effusion of serum into the injected blood, this is some hours later followed by the restoration of the circulating blood to its normal quantity and concentration, and still later by the slow migrations into the circulation of the injected blood. Its presence may be noticed for several days by the increased number of corpuscles.

The first indications, then, in severe acute anæmia is to fill the blood-vessels in the three vital parts, the brain, the heart and the lungs, by maintaining the most favorable position of the body of the patient. The same result may be attained more tardily, though more conveniently, by temporarily shutting off from the circulation the larger extremities and the abdomen by means of the elastic bandage. These two procedures have been termed autotransfusion.

When the anæmia is so excessive that autotransfusion is inadequate to restore the mechanical necessities of the circulation the anæmia is fatal, but autotransfusion may temporarily re-

¹ Virchow's Archiv. Bd. cxii.

² Journal of Anatomy 1890.

store the functions of the heart and fail to meet the needs of life. Then there is but one source of relief. This is to be found in the lymph. The rapidity with which the blood pressure is raised is remarkable. It is usually complete at the end of an hour or two. Therefore, when the symptoms of a low blood pressure remain after this time and the mechanical necessities of the circulation are unmet, washing out the remaining lymph by means of a subcutaneous infusion of a neutral salt solution meets the indication of the case. The amount of salt solution as well as its concentration need not be very exact nor need the temperature to be so well regulated as in infusion directly into a vein, for the tissues act as a sort of a ballast and reduce the infusion to a proper concentration and temperature. They retain also any excess in the quantity of the infusion until the blood pressure is reduced again by excretion.

After the mechanical needs of the circulation are met the quality of the blood may be so impaired that a vital equilibrium cannot be attained, and the patient sinks into a state of rapid dissolution. For such severe anemias the infusion of the salt solution should be followed by the injection of blood or by the transfusion of defibrinated blood.

THE ETIOLOGY OF TUBERCULOSIS.

Some important researches on this subject have been published in the *Medical Record* by Dr. H. P. LOOMIS, of New York. Starting from the well-known facts that tubercular deposits are sometimes found in the bronchial glands of persons who give no evidences of tuberculosis of other organs, and that, in some cases of pulmonary consumption, tubercles of apparently older date in the bronchial glands seem to have been the starting point of the infection, he undertook to determine in how large a proportion of persons who were free from visceral tuberculosis the bronchial glands contained the infecting element. For this purpose he tested the bronchial glands of forty-eight persons, dying from accident or acute disease, by triturating the glands, with due precautions against contamination, in distilled water, and injecting the mixture into the pleuræ of rabbits. The rabbits were killed after the lapse of a sufficient time, and, in case of their presenting the

appearances of tuberculosis, the nature of the lesions was still further tested by inoculating other rabbits from them in the same manner. Only in case of the success of inoculations of this second series was it assumed that the glands used for the first inoculation were tuberculous. In none of the cases used for inoculation were tubercles found in any other organs than the bronchial glands. In several of them the macroscopic appearances of glandular tubercles were found; some of these, however, gave negative results by inoculation. In a few, the tubercle bacillus was found in the tissue by microscopical examination.

Eighteen of the rabbits inoculated died too soon to determine as to the success of the inoculation. Of the remaining thirty, eight developed the lesions of tuberculosis, the character of which was confirmed by the success of inoculations on other rabbits. Three others caused lesions so strongly resembling tuberculosis that secondary inoculation was required to determine their non-tubercular nature. In five of the successful cases, death occurred suddenly from accident, while the persons were in apparent health.

The material for the experiments was mostly taken from hospital patients, and the author suggests that they are probably more exposed to infection than persons living in more favorable hygienic surroundings.

Two of the cases were of special interest. One was that of a prize-fighter, who had come to New York to give exhibitions, and died of pneumonia on the seventh day of the disease. At the autopsy, all of the organs were found normal, except the lower lobe of the left lung, which presented the lesions of the second stage of lobar pneumonia, and an enlarged bronchial gland. The other was a woman 70 years of age, who had been, for more than a year, a helper in the wards of Bellevue Hospital, where there were many tuberculous patients, and had always seemed to enjoy good health apart from the infirmity incident to her age. She died suddenly, from apoplexy, and at the post-mortem examination the lungs were found entirely normal, with the exception of abundant pigment. One bronchial gland was much enlarged. In both cases the animals inoculated developed the lesions of tuberculosis, in the latter, of a very virulent character.

In three of the cases giving negative results, calcareous nodules, and in two others cheesy

masses, presenting to the naked-eye appearances of tubercle, were found in bronchial glands. The failure of the inoculation experiments in these cases was thought to show the death of the bacilli, in case they had ever been present.

These experiments seem to show that it is possible for the infection of tubercle to remain latent in the bronchial glands for an indefinite length of time, and, on the other hand, probable that, after a long period of latency, it may enter into the circulation and infect vital organs. The thought that any of us may be carrying around in our bodies the germs of such a disease is not exactly a cheering one, although it is not probable that the knowledge adds anything to the risk in a given case, and it is open to every one to hope that even if such is the case, he may be one of the lucky ones in whom it is destined to go no farther.

BERI-BERI IN THE GRAND BANKS FISHING FLEET.

DR. W. S. BIRGE, of Provincetown, Mass., has written to the *Boston Medical and Surgical Journal* a brief note regarding the occurrence, during the past two years, of cases of beri-beri among the fishermen of the fleet sailing from his town to the Grand Banks. In the Autumn of 1889, he was called upon to attend seven cases, coming from two different vessels, which have the interest of rarity in that these cases originated in a quarter of the globe where the disease has not been supposed to exist. In October, 1890, also, as many as twenty cases have been landed at Provincetown from vessels arriving from the Grand Banks, eleven cases occurring on one vessel, out of a crew of thirteen. Two of these cases died within twenty-eight hours after having been brought ashore. Some of the cases have been received at the United States Marine-Hospital at Chelsea, while others were treated at their homes. The symptomatology is described as quite uniform in this series of cases, the prominent signs being general oedema, shortness of breath with precordial distress, numbness of the lower limbs, shuffling gait with decided inability to lift the leg at the knee. Only one case was confined to his bed, hydrothorax having supervened upon the general oedema. This man died, five days after his re-

turn home, with the symptoms of heart failure and pulmonary oedema. The other cases, after a period of two to six weeks, recovered. It was reported that a case had died on the voyage home, the symptoms of which were described as similar to the one above referred to as fatal. Albuminuria was present in only one case and there was some doubt if that was properly attributable to this disease. The spleen was greatly enlarged in three cases and the bowels in all were constipated, but probably not more so than might be expected among men who go fishing to the Grand Banks, a condition that no doubt results from the kind of food furnished on such voyages and a very general neglect among the fishermen to attend the functions of their bowels. The digestive organs seemed to be but little affected by the disease, the appetite being fairly good in nearly all the cases; one case only presented the symptoms of nausea and vomiting. The temperature was normal in all the cases that subsequently recovered. The knee-jerk was in two cases entirely lost, and in all diminished. There was, as reported by the patients themselves prodromic period marked by depression, muscular weakness and indisposition to work, also, by an oedematous condition of the areolar tissue of the anterior aspect of the legs; some cases had severe cramps and pains of a neuralgic character. The apparent cause for all these cases was defective food-supply. In the case of two vessels it was found out that they had been poorly fitted for the voyage; the two previous years had not been prosperous ones to their owners so that the outfit was cut down in every possible way; the salt beef was of a poorer quality than usual and the supply of fresh vegetables was very meagre. The catch of fish was at irregular intervals, so that the possession of this article of diet, in a fresh state, was not a frequent occurrence. The majority of the cases, in which the disease occurred, were strong, able-bodied men, in whom there were no recognizable traces of constitutional impairment. The treatment was almost wholly limited to a dietary management in which the chief ingredients were the coarsely prepared grains as oat meal and wheaten meal, along with a liberal allowance of fresh beef, diuretics and hydrogogue cathartics were used in some cases where the oedema was most marked.

EDITORIAL NOTES.

THE SECRETARY OF THE SECTION OF SURGERY AND ANATOMY of the American Medical Association is Dr. W. E. B. Davis, of Birmingham, Ala., not Dr. John B. Deaver, of Philadelphia, as erroneously announced.

ELECTRO-THERAPEUTIC ASSOCIATION.—A convention of American Physicians interested in electro-therapeutics has been called to meet at the Academy of Medicine, No. 17 West 43d Street, New York, on the 22d inst., at 11 A.M., for the purpose of organizing an American Electro-therapeutical Association. A general attendance of those interested is invited.

THE OHIO MEDICAL UNIVERSITY.—This is the name of a new institution that has recently been incorporated in Ohio, and which is to be located at Columbus, the thriving Capital of that State. The new University will consist in a Department of Medicine and Surgery, a Department each of Dentistry, Pharmacy, Midwifery, and a Training School for Nurses; and will be supplemented by a large new hospital, the gift of a number of the wealthy, philanthropic protestants of that city, and which is said, will cost about \$200,000, when completed.

The incorporators of this new school are: Mr. George M. Peters, a prominent millionaire; Mr. William M. Mutchmore, an influential druggist; Dr. J. F. Baldwin, Editor of the *Columbus Medical Journal*; Dr. John W. Wright, Oculist for the Columbus, Hocking Valley & Toledo, and B. & O. Railroads; Dr. R. Harvey Reed, Treasurer of the National Association of Railway Surgeons, Mansfield, O.; Dr. A. E. Evans, Surgeon of the C. C. C. & St. L. R. R., Columbus; Dr. A. F. Enninger, a prominent dentist of Columbus, and Dr. S. L. McCurdy, Surgeon of the Pa. R. R., Dennison, O. One of the prominent features of the new University will be the abandoning of the old-fashioned system of instruction by lectures, and adopting, instead, the "new plan" of "class teaching" similar to the methods now employed in the literary colleges. A graded course of three years of nine months each is to be adopted, which will include daily examinations and grading of the students, thus doing away with the necessity of a final examination.

This new method of teaching medicine, and

allied sciences, has been agitated for years in a majority of the leading medical journals of this country and Europe, but we believe this is the first school to organize on the new plan. It is expected to have every thing in readiness to open the new University about the first of October next.

A LARGE PRIZE.—The Academy of Medicine of Turin has just offered a prize of 18,000 francs for the best work on the "Nature and Prophylaxis of the Infectious Diseases of Man." Essays must be in Latin, French or Italian.

DR. W. W. DAWSON, the eminent surgeon of Cincinnati, ex-President of the American Medical Association, recently expressed a thought in a most terse and pointed way which is worthy of preservation. He said: "Anæsthetics are as essential to surgery as the knife. Both are dangerous, but neither can be ruled out in consequence of their danger."—*Ex.*

LADY DUFFERIN ZENANA HOSPITAL, CALCUTTA.—The building of the Lady Dufferin Zenana Hospital at Calcutta is now making satisfactory progress. The main hospital of two stories will contain thirty-six beds, there being separate wards for Hindus and Mohammedans. A ward will also be set apart for children, and a sum of Rs. 25,000 has already been subscribed for its support. Synd Mehdi Hussein Khan, of Patna, recently gave Rs. 1,000 in aid of the building fund of the hospital, but at least Rs. 20,000 is still required to complete the work.

A REPORT recently issued by the Pennsylvania Board of Health shows that there are 8,318 registered medical practitioners in that State, of whom 641 are of foreign birth, every nation except Spain being represented in the list.

ACCORDING to an American missionary, Bombay is a promising field for dentists, especially if they be of his own nationality. There is, he says, only one good dentist in the city, and he charges \$7.50 for drawing a tooth.

ONEROUS RESTRICTIONS ON MEDICAL PRACTICE IN CERTAIN STATES.—A recent law of New Jersey prohibits physicians from other States practicing their profession within that State's limits. A large number of New York medical men have thus been cut off from their fields of practice at the various sea-side resorts so much frequented

by the citizens of New York during the summer season. It is reported that the Long Branch local physicians were the originators of this piece of legislation. In some other States laws have, within the past few years, been adopted which seem to place somewhat odious restrictions upon the practice of even the most worthy and eminent members of the profession. It is stated that in New York State a physician who was regularly licensed to practice in Brooklyn was arrested in one of the towns of the northern part of the State for giving medical advice to some one whom he met while traveling, when his name was not duly registered with the county officers of the particular county through which he was then journeying.

MEDICAL ITEMS.

THE LEPROSY COMMISSION IN INDIA.—From Calcutta it is reported that the Leprosy Commission has examined many cases at Hyderabad, and it is stated that a few of them were declared to be unequivocal examples of leprosy. It is understood that the commission, after spending six months inspecting cases in the plains, will pass six months at Simla carrying out experiments in connection with the cultivation of the leprosy bacillus.

OWING to the cholera scare in Egypt, the Khedive has by special decree granted a free pardon to all prisoners undergoing sentences not exceeding three months. This means the liberation of about two thousand prisoners throughout Egypt. More than 350 prisoners have already been set at liberty in Cairo.

THE SENATE of Calcutta University has adopted a resolution to make the University a teaching as well as an examining body by adding certain professorships. The scheme has been forwarded to the Government for its favorable consideration.

By decree dated December 4, Dr. Giulio Bizzozzero, Professor of General Pathology in the University of Turin, and Dr. Ottavio Morisani, Professor of Obstetrics in the University of Naples, were named Senators of the Kingdom of Italy.

PROFESSOR SONNENBURG has begun the surgical treatment of pulmonary cavities in the Section for Tuberculosis in the Moabit Hospital at Berlin, and has already operated on four pa-

tients in the presence of Professor Koch. All the cases are said to be doing well.

IN order that the changes produced in tuberculous tissues by Koch's fluid may be determined as accurately as possible, the directors of the Charité Hospital at Berlin have given orders that the bodies of any patients who may die after having been treated by the new method shall be examined as soon after death as the law permits. Koch found such early examinations a great help in his investigations on cholera.

DR. A. F. HOLT, Surgeon-General of Massachusetts, died December 28, in Martin, Fla. Dr. Holt resided at Cambridge, Mass., and left for the South about a month ago for the benefit of his health, he being a sufferer from Bright's disease. He was born in Lyndeborough, N. H., December 16, 1838. He obtained his medical education at the Harvard Medical School and University of Vermont, and served with distinction during the war as hospital surgeon. In January, 1884, he was appointed Surgeon-General of Massachusetts.

CHOLERA IN JAPAN.—The epidemic of cholera which is at present raging in Japan is one of extraordinary severity. It is said to have followed an outbreak of influenza which commenced in February last, and reached its climax in April, dying away towards the beginning of summer. As soon as the influenza disappeared, however, cholera seems to have been imported from China, and, as the *Sei-i-Kwai Medical Journal*, of October 25, says, "furiously invaded with tremendous rapidity." The terrible nature of the visitation may be judged from the fact that up to October 2, 33,863 persons had been attacked, of whom 22,560 died. Owing to the vigorous efforts of the sanitary authorities the epidemic is now, according to our contemporary, "rather rapidly fading away."

THE surgical treatment of peritonitis by drainage does not seem to have found so much favor in France as it has in England or in Germany, and the cases which are recorded are not very numerous.

MINKOWSKI'S discovery that extirpation of the pancreas produces glycosuria has suggested to clinical observers the possibility of diseases of the pancreas in man as a cause of diabetes.

TOPICS OF THE WEEK.

PERFECTED OBSTETRICS.

Dr. Alfred L. Carroll, discussing "the influence of a more perfected obstetric science on the biological and social conditions of the race," has some very pertinent observations on the number of cases of "still-births" and the effect of the present conditions of obstetrical science. For instance, he says:

It is to be regretted that the registration of vital statistics is so imperfect in this country as to preclude any attempt to classify by months the mortality under one year; but the data, such as they are, indicate that, in the United States generally, about 25 per cent. of live-born children die during the first twelve-month.

It would not be unreasonable, perhaps, to assume that at least half of the deaths under one month are attributable to accidents in parturition, and that a large residuum of those occurring in the first year has a similar origin; but the admirable reports of Farr may enable us to go a step farther in the field of inference. The death-rate under one year per 10,000 births in England, for the three years ending with 1875, was 1,527. Of these 95 were ascribed to the acute zymoses, 29 to "teething," 171 to diarrhoea, 263 to "lung diseases," 98 to tuberculosis, 128 to prematurity, 267 to "atrophy," 14 to "suffocation," and 251 to convulsions, leaving 211 "not stated." The deaths from prematurity, "atrophy," and convulsions constitute nearly half of the mortality, all of the former and a considerable proportion of the latter two being referable to the time or act of parturition, and some of the pulmonary disorders having their predisposition, if not their origin, in atelectasis at birth. In Farr's March of an English Generation, based on the labor of over thirty years, he computes that the average deaths per million under one year will be 149,493, of which 30,637 will be from diseases of the nervous system, and 21,995 from respiratory maladies. West, taking a wider view of "nervous" disorders, ascribes to these 30.5 per cent. of all the deaths under one year, and to convulsions alone 73.3 per cent. of the "nervous system" mortality—equivalent to 33,421 to the million births. Nor is he any less cogent in his reasoning than in his statistics. The conclusions which he draws respecting the social conditions have the sound of true earnestness which is refreshing. Under this head he says: "As regards social conditions, I have little to say beyond expressing the belief that misery rather than midwifery is responsible for most of the degradation which blots our vaunted civilization. It may be that in some cases such misery is the outcome of physical disability dating from birth or parturition, but in more instances it is the result of acquired vicious habits. Social statistics show that the numbers of murders, suicides, and other kinds of crime bear about the same proportion to population every year; but of the etiology of criminality nothing can be positively affirmed. Even those who dogmatically ascribe all the ill-doings of the world to alcohol have still to find some antecedent factor, and to explain why the vast majority of consumers of alcoholic beverages refrain from crime. Inebriety is often

the excitant, but the predisposition must be sought behind it. "*In vino veritas*" has a wider philosophical meaning than they who quote it ordinarily wot of.

The vexed question of heredity (not so much of disease as of proclivity to disease) has little relation to obstetrics, save as it has led some enthusiasts to imagine an impossible prophylaxis by forbidding the marriage of physically, mentally, or morally unhealthy persons, and in this way diminishing obstetric practice, except in illegitimate births; and it is doubtful if anything but a destructively retrogressive midwifery or an increasing prevalence of oophorectomy can materially reduce hereditary morbidity, since delicate, and especially consumptive, women seem to be more apt to conceive and less likely to miscarry than their more robust sisters. As a "glittering generality" it may be asserted that every obstetric advance which saves mothers from invalidism and children from incapacity for future effort must promote the social condition of the race, but politico-economic rules and the inexorable operation of natural laws will probably always overshadow in this respect the influence of medical science, or even of Congressional legislation.—*Times and Register*.

THE CHOLERA AND THE MECCA PILGRIMS.

A correspondent, writing to a local paper from Jeddah, says: "The epidemic is completely finished. On October 17, thirty days after the occurrence of the last case of cholera, Dr. Vaume allowed free pratique. Almost all the pilgrims have left. I say nearly all, because there always remain a thousand or so of beggars who, having nothing but starvation before them in their own countries, prefer dying in the sacred land, as being so much nearer to the gates of Paradise. Now is the time to make up the accounts of the pilgrimage—to estimate the number of those who have died. In my estimation—and I have formed a very modest one—the deficit among the returning pilgrims must be put down at 35 per cent. In ordinary years, when there is no epidemic, about 20 per cent. die; this year the cholera has added 15 per cent. to the total number of victims. This estimation of 20 per cent. in ordinary years is by no means too high when one considers the great number of old people taking part in the pilgrimage, combined with the fact that the journey from Mecca to Yambo, *via* Madeira, is an excessively trying one, and that all the people who perform it have passed one day at Arafat and three at Monna with heads bare, exposed to an ardent sun. They commence the return journey, consequently, in a worn-out state, and, once started, caravans do not stop for the treatment of sick, and laggards soon die of thirst, or are murdered by the Bedouins. The poor people must keep perpetually moving on; those who cannot keep up are abandoned, and then the vultures take charge of public salubrity. Although one may have seen many such things during a long existence, I doubt if any one could form an idea of the state of affairs during an epidemic at the time of the pilgrimage without being an eye-witness thereof. Thousands of men arrive on camels each morning at the gate of the town; the number of empty saddles is seldom less than 10 per cent. A man dismounts, staggers a few steps,

writes; his limbs contract, and lo! in an hour he is dead. Another drags himself towards the walls so as to die in the shade; but soon appears a citizen who seizes the unfortunate wretch by the foot, and drags him to a distance; were he to die close to the town the smell would be objectionable! As soon as a pilgrim falls sick the passers-by precipitate themselves upon him and relieve him of the belt wherein he carries his little stock of cash, but no one dreams of attempting to afford him relief. It is a disgrace to humanity." This we believe to be substantially correct. It is time that civilized Europe should take steps to put a stop to these atrocities, and at the same time prevent the spread of cholera.—*Brit. Med. Jour.*

THE DISCUSSION OF MEDICAL SUBJECTS IN THE NEWS-PAPER PRESS.

Some medical men, and even some newspapers, seem to be somewhat disturbed by our remarks on the contributions to newspapers on the Koch treatment of tuberculosis. We are not unreasonable or unpractical. The etiquette of the profession has good grounds for its existence in reason and in the nature of things. And any departure from it is sure to be followed sooner or later, and generally quickly, by consequences bad for the person violating the rules of professional custom, bad for others who are led to follow an evil example, and bad for the public, who are hopelessly misled by vague newspaper statements of disease and its remedies. In some of our colonies men of high qualifications and good professional history have taken to the most unblushing advertisement of themselves as prodigies of skill for curing all sorts of disorders. In connection with this matter of Koch an Austrian physician is announced in the newspapers as curing consumption by "Dr. Brown-Séquard's fluid" more effectually than Koch. The following is taken from a daily provincial contemporary as a prominent paragraph, and corresponds with an advertisement to a similar effect in another issue of the paper:

"DR. KOCH'S TREATMENT FOR TUBERCULOSIS.—Mr. —, one of the medical staff of the — Hospital, yesterday received a supply of Dr. Koch's fluid, sufficient, we understand, to serve for upwards of five hundred injections. There will be a demonstration of the application of the treatment at the — Hospital on Thursday before a medical audience."

There can be no defence of such communications to newspapers. If the design was to communicate with the profession, the post or the medical journals would have been the proper medium. The most unseemly uses have been made of Dr. Koch's kindness in supplying his fluid. Such things are not only a breach of professional etiquette and tradition, but in the long run the public suffers and suffers most. It is misled. Statements that need checking and correction are put forth with confidence. Every day is showing more clearly what an injustice has been done to Koch by the forced premature disclosure of his great discovery—for great it is, whatever may be the limitations of it. But this is nothing compared with the cruel disappointment created for those who are led to expect more of the discovery than he has ever promised or could promise. This is the kind

of considerations which underlie the etiquette of the profession. We repeat, we are not unreasonable. The magnitude of Koch's expressed hopes may perhaps excuse some haste and premature publicity in newspapers. But they should not be abetted and encouraged by members of a profession who cannot with impunity prescribe through newspapers or adopt them as media for the discussion of the profoundest questions in pathology and therapeutics.—*Lancet.*

ITALIAN HONORS TO GERMAN PHYSICIANS.

An Italian correspondent writes: "At the meeting of the Accademia Medica di Roma on the 7th ult., the President, Professor Guido Baccelli, forwarded to Dr. Koch the following telegram, which had been voted with acclamation: 'The Royal Medical Academy of Rome sends to its illustrious Honorary Fellow, Robert Koch, its tribute of applause and admiration for his profoundly scientific and humanitarian discovery.' At the same meeting the Royal Medical Academy, again at the instance of its President, seconded by the acclamation of the assembled associates, set aside *ad hoc* its formal regulations to nominate Rudolf Virchow a 'Socio d'Onore' (Honorary Fellow), and resolved to contribute 500 lire (£20) to the fund for the gold medal which is to be struck for this 'maestro dei maestri' (master of masters) on the approaching completion of his seventieth year."

LITERARY INTELLIGENCE.

It is announced that Professor Mathias Duval will for the future be associated with Dr. G. Pouchet in the editorship of the *Journal de l'Anatomie et de la Physiologie Normales*. This well-known periodical, which was founded by Professor C. Robin, has now entered on its twenty-seventh year, quite a respectable antiquity for a journal of so high—not to say dry—a class which appeals to an audience which must in the nature of things be "few," however "meet."—The *Revue Philosophique*, which now enters on its sixteenth year, is remarkable as being probably the only periodical in the world which can boast of a Minister of Cabinet rank as its editor. M. Ribot, however, is something more than a mere Minister for Foreign Affairs; he is Professor in the Collège de France, and a philosopher of credit and renown, not only among politicians, but among philosophers. A noteworthy feature of the *Revue Philosophique* is the prominence given to such subjects as the nervous system, mental pathology, anthropology, etc. Both the periodicals just mentioned are published by Félix Alcan, who, it may be added, also plays the part of Lucina to the *Revue de Médecine* and the *Revue de Chirurgie*.—On January 1, 1891, will appear the first number of a new journal devoted to stammering and speech affections generally. It is to be entitled *Medicisch-pädagogische Monatsschrift für die Gesamte Sprachheilkunde*, and will be edited by Herr Albert Gutzmann, and Dr. Hermann Gutzmann, of Berlin.—It is announced that in January, 1891, a new series of the *Journal of Laryngology* will be commenced. Dr. John Macintyre, of Glasgow, will be associated with Dr. Norris Wolfenden in the editorship, and these gentlemen will have "the active aid and coöperation of Drs. Dundas Grant, Barclay J. Baron, Hunter Mackenzie, and Sir Morell Mackenzie" in their labors. The publisher is Mr. F. A. Davis, of Berners Street, W., and Philadelphia.—*Brit. Med. Jour.*

FOREIGN CORRESPONDENCE.

LETTER FROM BERLIN.

(FROM OUR OWN CORRESPONDENT.)

To the Editor:—I have been carefully watching the experiments now being made with Prof. Koch's "Heilmittel gegen Tuberculose" which have drawn so many physicians to Berlin from all parts of the globe, not among the least of these from America. I will endeavor to give you an idea of the action of the lymph and also by a few cases which I have selected from a number as being typical, give you an idea as to what results have been arrived at up to the present time. As you know, according to Prof. Koch's paper in the *Deutsche Med. Wochenschrift* of the 13th of November a dose of 0.25 ccm. of the lymph will cause considerable febrile reaction and symptoms in a healthy person, and a dose of 0.01 ccm. will in some persons produce a slight reaction. In tubercular patients the reaction is as follows: From four to six hours after an injection of a full dose (from 0.0005 to 0.01 ccm. according to age and condition of patient, and inversely to the extent of the tubercular infection) the temperature begins to rise, often accompanied by a chill, reaching its maximum about the tenth or twelfth hour. The temperature usually reaching from 39° C. (102.2° F.) to 40° C. (104° F.), but in some cases it reaches as high as 41° C. (105.8° F.). The height to which the temperature rises seems to be proportional to the extent of the tubercular process, hence great care must be taken regarding the dose when the lungs are involved. In all cases of lupus and other external tubercular affections, the lungs should be carefully examined physically, and the sputum for bacilli. With the rising temperature there is often vomiting and considerable depression, headache, and sometimes unconsciousness. The pulse ranges from 120 to 140, and sometimes as high as 180. After reaching its maximum the fever gradually falls, and in from twenty-four to thirty-six hours that which was induced by the injection disappears entirely. The fever curve with its attendant symptoms strikingly resemble an acute sepsis.

In some cases an eruption appears over the body much like that of scarlatina; this, however, disappears with the fever.

The local reaction is the more striking and remarkable, especially in external tubercular affections, where it can be best studied. Seemingly, and as far as has yet been proven in the great number of patients experimented upon, it only appears in the pathological processes, due to the tubercle bacillus, attacking old cicatrices where long before tubercular glands had been removed, often demonstrating the presence of lupus nodules where they had not previously been observed or

suspected as showing where a tubercular bone process lay latent.

Lupus.—As the temperature rises the lupus patch becomes swollen. In all the cases which I have seen tubercular glands and the like, if present, also become swollen and painful. The lupus takes on a red color which deepens with the rising temperature until it is of an erysipelatous hue. From the nodules rays of redness go out into the surrounding tissue, and about the entire patch a light line of anæmic skin forms a line of demarkation between the healthy and diseased tissue. On the surface of the lupus small vesicles form, from which a light colored serum exudes, at times tinged with blood; this forms a thin crust which in from twelve to thirty-eight hours begins to scale off, leaving under them what seems to be a fine delicate skin. This reaction takes place after each injection, but, as a rule, to a less degree each time, though the dose be increased. One case of lupus of the nose and face which I have in mind was still reacting after the fifteenth dose. In this patient the diseased patch looked much improved though not yet free from its pathological condition. From its looks I think it may possibly be well before very long. A great number of similar cases may be seen in the wards.

Coxitis.—The local reaction manifests itself in a swelling about the affected joint which becomes exceedingly painful to movement or to the touch.

The following two cases of coxitis have ceased to react to ordinary doses of the lymph:

Case 1.—Willie Z., æt. 3 years, coxitis (left). Reaction set in on an injection of 0.0001 ccm. (or 0.1 ccm. of the 1 per cent. solution which is used). Reaction slight on tenth dose of 0.005 ccm.; did not react on eleventh dose of 0.005 ccm., nor on twelfth dose of 0.01 ccm. At the time of the first injection (November 6) the joint was very painful both to palpation and to movement, now the child voluntarily moves his limb and would stand upon it were it not in a perverse position (adducted and flexed).

Case 2.—Osker S., æt. 3 years, coxitis (right). Did not react after last four doses. Though the joint is not painful on movement it is still painful to touch and deep fluctuation can be detected.

How much of the improvement in the above two cases is due to the remedy and how much to the quiet rest in bed is a question, perhaps, not easily answered.

Case 3.—C. S., æt. 41 years, tuberculosis of pharynx and of larynx. The patient entered the hospital with large ragged ulcers on both pharynx and larynx, which were at first thought to be syphilitic in their nature, but, on the injection of 0.002 ccm. of the lymph, he reacted both locally and generally, so that the diagnosis of tubercular ulcers was arrived at.

I mention this case more to show what an aid

to diagnosis the lymph may prove to be. Perhaps its main curative effect may be in this early diagnosis, though I must say that it seems to have a curative effect in itself, especially in lupus. Prof. von Bergmann, Prof. Israel, Prof. Gerhardt and many other eminent men in the profession seem to expect great curative results from the remedy. I have seen but one case in which no reaction took place after a number of doses. This was in a case of spondylitis presented by Prof. Jolly. Tubercle bacilli had been demonstrated a few weeks before the injections were made. Prof. Jolly at the same time presented another parallel case; in this both local and general reaction took place after the first injection.

Case 4.—Max B., æt. 19 years, tuberculosis pulmonii. The initial dose was quite small, 0.002 ccm., as it should be in all cases of lung tuberculosis, for in these cases the lymph is a dangerous remedy. The reason is apparent if we but imagine such a local reaction as occurs in a case of lupus taking place in the lungs. From what I have seen in the wards and upon the post-mortem tables I believe that no case of far advanced lung tuberculosis should be treated by this method, at least not until further experiments have exactly defined the danger limit.

In this case the patient feels much better, night sweats diminished, and he has slightly gained in weight.

The above cases were from the wards of Prof. von Bergmann's and Prof. Gerhardt's clinics.

I have seen but three post-mortems, though more have been made. One a case of basilar meningitis. The treatment by Koch's method began very late in the disease. No demonstrable changes were found in the tubercular processes. The second, a case of far advanced lung tuberculosis, the entire upper lobes of both lungs having been involved. No changes due to the lymph could be demonstrated in the tubercular masses. The third, a case also of very far advanced lung tuberculosis. This patient had received but two injections, one of 0.002 and one of 0.003 ccm., the last injection having been given seven days before death. After the second dose the temperature rose and continued at 39° C. until death. In this case the upper lobes were entirely destroyed and the rest of the lungs in a state of caseous pneumonia. In the larynx a small ulcer seemed to be cicatrizing, otherwise no changes due to the lymph injections could be demonstrated in the tubercular processes.

On all sides cases of marked improvement have been reported, but time alone will tell the real value of the remedy. No doubt many important developments will soon follow, and I will endeavor to keep you posted.

I hope that I have not underrated the value of this "great discovery." I have been careful not to overrate it, as is the general tendency at present.

I think this rapidly written letter will give you somewhat of an idea of the state of the experiments and what has been done so far, at least as I see them.

MAURICE I. ROSENTHAL, M.D.

Berlin, Dec. 8, 1890.

Koch's Method in Pulmonary Tuberculosis.

Dr. E. Fletcher Ingals, of Chicago, furnishes the following clinical notes just received from Dr. Corwin, now in Berlin:

December 16, 1890. Charité Hospital, consumptive wards of Dr. Gerhardt. Kaschuer, painter, æt. 24, married, weight 135 lbs., mother and father both died of quick consumption. Patient, as a child, had typhoid, measles, scarlet fever. September last he began to cough, with some expectoration. At end of September had hæmoptysis (half cup). Had night sweats, chills in evening, some fever. Entered hospital October 30. Cough, weakness, chest pains on deep inspiration. Has good physique, dry skin, no gland trouble. Pulse was regular, 72; appetite fair, tongue coated. Physical examination gave: percussion note short at left apex (supra- and infra-clavicular spaces), also behind in supra-spinous fossa of left side. Bronchial breathing in above locality, many moist râles on expiration and posteriorly, from seventh down evident pleuritic friction sounds. Vocal fremitus some weaker. Heart normal. Vital capacity 2,000 cc. (3,500 cc. normal).

November 6. Small ulceration on left arytenoid body noticed.

November 10. Physical signs about same as above, and left lower lobe behind shows signs of receding, catarrhal inflammation, tubercular bacilli quite numerous. From October 31 to November 18 temperature always normal substantially. Physical signs same as November 10, and weight same (126 lbs.).

November 18 received injection of two milligrams (0.002) of lymph, 9 A.M. Temperature gradually rose to 38° C. at 5 P.M., 39° at 6:30, 39.5° at 8:30, 39° at 9:30, 38.3° at 10, gradually falling off in next twenty-four hours to 36.4° on morning of November 20. The signs of first reaction were (injection at 9 A.M.): At 12 M. face became hot and flushed; at 5 P.M., pains in the left tibia and appearance of measly exanthema on face, with itching; 7 P.M., sweating, pulse dicrotic, conjunctiva injected, subjective feeling of heat not so evident, exanthema more marked; 8 P.M., lancinating pain in left apex.

November 20. He feels well, vital capacity 1,800. Received injection three milligrams (.003), no reaction of temperature therefrom; but slight constitutional disturbance, cough increased. Exanthemata became quite marked in evening;

sputum amounted to 40 cc. in twenty-four hours.

November 21. Right arytenoid body shows grayish white discoloration.

November 22. Injected 0.005 (5 mg.), no particular temperature reaction (37°), none of pulse or respiration. Bacilli found in not very large numbers and without morphological change; pains in neck, left side; slight dyspnoea.

November 24. Injection .008 at 9 A.M. (as usual); reaction of temperature 38.5° with slight constitutional disturbance; right arytenoid body but slightly ulcerated; both vocal cords congested; sputum 60 cc.

November 26. Injection 0.010 (10 mg.) 9 A.M.; hardly any temperature reaction, 37.3° ; sputum formerly numulated and purulent, become mucopurulent, frothy, 30 cc. in amount.

November 27. Exanthema on face very marked in morning; ulceration on right arytenoid body still present; V. C. cords less congested (has receded); sputum 10 cc.

November 28. Injection 0.0150, slight reaction of temperature following (38.4°), slight constitutional disturbance, sputum 40 cc.

November 30. Injection 0.020, reaction slight, 38.2° . In the sixth slide examined (specimen of sputum) only one bacillus tubercle found.

Lung Changes.—Some dulness still present on left side, clavicular region. Bronchial breathing confined to upper part of left, supra-spinoous space; mucous râles rare, but heard in fossa infra-clavicular, left side.

December 2. Injection .025, 9 A.M., reaction of temperature very slight, 38.1° ; pulse and respiration unchanged, catarrhal condition of larynx greatly receded, ulceration but little evident.

December 3. Anterior pillars of fauces very red, large number of small inflamed patches appear on them (probably herpes?).

December 4. Injection .030, temperature reaction slight; 38.3° in evening; sputum 20 cc., but slight disturbance generally, weight 131 lbs.

December 5. Sputum largely increased, 80 cc.

December 6. Injection .040 (40 mg.) temperature reaction, 38.5° , sputum 40 cc., four slides (specimens) examined for tuberculous bacilli, none found.

December 8. Injection 0.50, reaction of temperature quite marked, sputum 20 cc.

December 10. Injection 0.060, hardly any reaction, 38.8° ; sputum 20 cc. A new appearance of exanthema on face. Ulceration in larynx better, visible again, no bacilli found in the one specimen examined, vital capacity 1,980.

December 12. Injection .070, very typical reaction of temperature, 39.40° , accompanied by night sweats. Dulness at left apex still evident, no longer bronchial breathing, only occasional râles, 20 cc. sputum. Severe headache.

December 14. Injection 0.070, temperature

38.4° in evening; general disturbance very slight.

December 16. Injection .080, temperature in evening, 38.6° . Since December 10, only 10 cc. of sputum per twenty-four hours; catarrhal condition at apex almost gone. Sputum now entirely mucus, only small spot of slight bronchial respiration. No more night sweats. Bacilli could not be found in several specimens examined. Weight, 132 pounds; appetite good. Will report further as the case progresses.

This is but one of very many similar cases which give evidence by disappearance of night sweats and bacilli, purulent sputum and local signs of a constant improvement under Koch's treatment alone, combined with the usual dietary measures and recovery. And when it be remembered that in the past history of Charity hospital's consumptive wards, improvement and recovery have been very rare exceptions, and a gain in weight of five to eight pounds in two weeks never before reported, such cases as the above are the more significant. In two or three instances patients effected with lupus of many years standing have been discharged from Bergmann's clinic cured so far as present appearances go, after a treatment of from three to six months. Like diseased tissue when deep seated, as in the lung, must necessarily take longer for removal when separated by action of the "lymph" as it would seem, so that we may hope for a very fair determination of the pros and cons of this certainly wonderful remedy in the next few months, especially as the number of patients exhibiting all varieties of the disease is enormous in Berlin alone. It is very fortunate, too, that the "lymph" is being tested among Germans on German patients, for certainly America would never allow this amount of experimentation involving death in some instances, without what might become troublesome investigations. But Germans are asking very few questions and the doctors are telling very few lies about the deaths of those few patients fortunate enough to be hastened on a painfully lingering way. The syringe first recommended by Koch has become already obsolete, superseded by the ordinary piston hypodermic. He goes on to say that abscesses have resulted from using these syringes, though never from using the ordinary syringe when it is properly cleansed.

My impressions gained thus far, lead me to believe in the beneficial, if not ultimately curative action of the new remedy, in cases of lupus and those cases of incipient pulmonary disease and of laryngeal involvement where the patient is of fair strength, especially among males. The patient must be able to bear the repeated induced toxæmia (of the lymph) and to throw off the diseased and disintegrated tissue as it is set free. Though the weight of evidence seems to be favorable, untoward results have been not a few among

weak patients, females and those far advanced in the disease.

The following case was of interest as illustrative of the intense reaction manifested at times:

Emilie Richter, æt. 19, seamstress, entered Hospital Charité and examined November 19. Mother died of "pleurisy" (probably tubercular), father from "accident." One healthy brother; three other members of family died of lung trouble. Patient had diphtheria at 16. Menses regular, no childbirth, no abortion. Anæmia for last five years. Felt well till two years ago, when she changed occupation from maid to seamstress. For last year, pains in chest on right side; dry, hacking cough, no expectoration. Ten weeks ago (beginning of September) had "pneumonia," high fever eight days, since then severe cough and expectoration, no hæmoptysis. Night sweats last ten weeks, appetite poor, great general weakness.

Physical Examination.—Suffering expression of face—small woman, weakly. Non-pigmented anæmic skin, not dry. No exanthemata, conjunctiva and lips very anæmic. Glands not enlarged. Left apex two fingers' breadth, right apex one finger's breadth above clavicle. Dulness at right apex down to fourth dorsal vertebra (hence more consolidated on right side), dullness down to second rib (anteriorly), particularly. Bronchial breathing and moist râles on left and dullness over left clavicle. Posteriorly no distinct dullness. Over left spine of scapula very harsh breathing and occasional crackling. Heart normal, except systolic anæmic murmur. Spleen normal, larynx normal. Patient's weight before injection $4\frac{1}{2}$ kilos. Tubercular bacilli in enormous quantities. Hectic fever, generally rising to 38.6° C. in the evening and falling to 37.5° in the morning. From November 20 to 23 lost 2 kilos, in weight (indicating rate of loss).

November 24. .002 (2 mg.) injected at 10 A.M. Temperature 37° C., rose to 39.5° at 6 P.M., 39.1° at 9 P.M., and fell to 37.2° at 6 A.M. During reaction pulse went up from 100 to 120, respiration from 20 to 25. A chill at 5 P.M. (November 24), lancinating pains in right chest, vomiting, nausea, headache and dizziness. Cough not increased, but expectoration doubled.

November 25. Rose to 39° at 6 P.M. without new injection, fell to 36.5° at 9. Respiration and pulse unchanged. Complaints of pain in chest, and arytenoid bodies show slight discoloration.

November 26. Injected .005 at 11 A.M. Temperature at 37° , rises to 40.4° (104.6° F.) at 6 P.M., where it remains for three hours, falling to 38.5° at midnight. Pulse during reaction went up from 100 to 130. Respiration from 22 to 60 at 6 P.M.

Examination of Lungs.—No change in right upper lobe. Posteriorly, left upper lobe now shows very distinct dullness to spine of scapula, with bronchial breathing and numerous metallic

râles. Patient on this day (November 26) had a severe chill from 12:30 to 2 o'clock. From 4 to 5:30 another chill. During reaction no sweat, but great feeling of warmth. Greater tendency to cough, more expectoration, which is more mucus.

November 27. Temperature normal in morning, respiration normal. In evening former hectic, 38.4° . Feels well, but no change in lung.

November 28. Injected .008 at 9 A.M., with normal temperature. 39.4° at 6 P.M.

November 29. No injection; usual hectic in evening, expectoration much increased. At left apex bronchial breathing has given place to harsh vesicular type. Consonant râles no longer heard. Dulness less extensive.

November 30. Injected .010 at 10 A.M. Temperature normal. At 6 P.M. temperature 39.5° , falling to normal at 3 A.M. Repeated examination shows at posterior left apex no bronchial breathing; dulness far less evident.

December 1. Hectic rises in evening to 38.6° .

December 2. .01 (1 centigram) injected at 9:45. Temperature 37° , at 6 P.M. temperature 39.8° . She complains as usual during reaction of headache, nausea and a feeling of great warmth, no sweat, sleeps well.

December 3. Hectic rises to 38.8° at 6 P.M.

December 4. At 12 injected .015. Temperature 38.2° , fever rises up to 40.1° at 6 P.M. Respiration 60 at 9 P.M., temperature and respiration normal at 6 A.M.

December 5. Hectic rises to 39.2 at 6 P.M.

December 6. Injected .015 at 9:30 A.M., temperature, pulse and respiration normal, 6 P.M., temperature 39.5° , slight dyspnoea; 9 P.M., temperature 39.3° , respiration 72, pulse 120. Intense pain in chest, nausea, vomiting, night sweats, cough and expectoration not increased. Morning weakness. Tubercle bacilli very numerous, no lung change to be detected.

December 7. 9 P.M., hectic low again, 38.2 .

December 8. Injected .015. Temperature 38.1° , rises to 39.1° at 6 P.M., respiration to 52, accompanied with chill, night sweats, pain in left shoulder—no lung change.

December 9. Hectic at 6 P.M., 38.7° .

December 10. Injected .015 at 9:30 A.M., at 12 pulse at 40, at 6 P.M. temperature 39.6° , no dyspnoea particularly, though respiration 40.

December 11. Hectic of 39.7° , pulse 125, respiration 42. Dulness increased anteriorly down to third rib on both sides. Tubercular bacilli still present in large numbers.

December 12. 37.2° A.M., 39.2° P.M. Patient complains of little sleep, headache, great weakness. Cough increased. Slight hypostasis in base of left lung, axillary region.

December 13. Temperature 37.6° A.M., 39.2° P.M.

December 14. Temperature 37.2° 6 A.M., 38.6° 12 M., 38° at 3 P.M., and 39.6° at 6 P.M.

December 15. Temperature 38.2° at 6 A.M., 38.8° at 12 M., 39.4° at 6 P.M.

December 16. Temperature 38° at 6 A.M., 39.3° at 9, 38.2° at 12, 40.1° at 3.

December 17. Temperature 37.6° at 6 A.M., 38.2° at 6 P.M.

From December 11 to 16 a cavity has been forming at right apex, of which the high hectic between injections is expressive.

Temperature in these cases taken in axilla, every fifteen minutes.

SPECIAL CORRESPONDENCE.

Shall The Journal be Removed to Washington?

To the Editor:—In my opinion, the idea of removing THE JOURNAL from Chicago should never have been entertained at all, and I believe it is the desire of a majority of the members that it remain where it is. Chicago is near the geographical centre of the United States, is a great medical centre, and, being by far the greatest railroad city in the country, is better able than any other to distribute THE JOURNAL, speedily, in all directions.

If, however, this question is to be acted upon, let us not wait until the next meeting of the Association, and allow it to be decided by a sectional vote, but submit it to the entire membership and allow us all to have a voice in the matter.

I suggest that you inform us, through the columns of THE JOURNAL, at what time the vote will be taken; then send a blank with each copy of one issue of THE JOURNAL, and impress upon the members the importance of filling it *at once*, before it is lost or forgotten, and sending it either to the Secretary of the Association, or to a committee appointed to count the votes.

It seems to me that this is the only just way to settle the matter, for we are all interested, and entitled to a vote, whether we be country doctors in Illinois or Dakota, or city physicians in Philadelphia, New York or Washington.

F. W. DIMMITT, M.D.

Oneida, Ill., January 6, 1891.

To the Editor:—Let THE JOURNAL remain in Chicago.

B. F. HART, M.D.

310 Front St., Marietta, O.

To the Editor:—THE JOURNAL should remain in Chicago:

First. Because Chicago is centrally located for mailing facilities.

Second. Because Chicago will soon be as well supplied with library advantages as any city in the United States.

Third. Because Chicago is nearer the centre of the membership of the American Medical Association, and consequently more in touch with them.

Fourth. We are opposed to moving it to the East from the West.

H. B. TANNER, M.D.

South Kaukauna, Wis., January 9, 1891.

To the Editor:—I am satisfied with our Journal's present location.

CHAS. W. ROOK, M.D.

San Antonio, Tex., January 8, 1891.

To the Editor:—My vote is for THE JOURNAL of the A. M. A. to remain in Chicago, for the simple reason, that said city is near the centre of this "*Great Republic*." Any of the large Western cities would be preferable to the city of Washington, D. C. "Westward the star of empire rolls."

DAVID S. BOOTH, M.D.

321 N. Jackson St., Belleville, Ill., January 9, 1891.

To the Editor:—I say yes. Washington is not a place of common trade or manufacture, as are other cities of our country. It is our capital, with its many attractions, the pride of the American citizen. It should be made the headquarters of the arts and sciences. THE JOURNAL should be placed with the Medical Museum and Library, and all physicians should have pride enough for their profession and country to cheerfully support it, so as to make it the peer in medical literature of the journals of any country.

What THE JOURNAL most needs and should have is the united support of the medical profession.

JOSEPH WAGGONER, M.D.

Ravenna, O.

MISCELLANY.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 3, 1891, to January 9, 1891.

By direction of the Secretary of War, the following-named medical officers will proceed without delay to Pine Ridge Agency, S. Dak., and report in person to the commanding General, Dept. of the Platte, for duty in the field: Capt. Henry S. Kilbourn, Asst. Surgeon; Capt. Edwin F. Gardner, Asst. Surgeon; Capt. Edward Everts, Asst. Surgeon. Par. 9, S. O. 304, A. G. O., December 30, 1890.

Brigadier General Charles Sutherland, Surgeon General, will, as soon as practicable, repair to this city, and assume the duties of his office. By direction of the Secretary of War. Par. 9, S. O. 2, A. G. O., Washington, January 3, 1891.

Major James P. Kimball, Surgeon, assignment to duty at Ft. Supply, Ind. Ter., in S. O. 132, Dept. of the Missouri, September 24, 1890. By direction of the Secretary of War. Par. 6, S. O. 4, A. G. O., January 6, 1891.

APPOINTMENT.

Col. Charles Sutherland, Surgeon, to be Surgeon General, with the rank of Brigadier General, December 23, 1890. Vice Baxter, deceased.

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THE

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No. 4.

ORIGINAL ARTICLES.

REPORT ON LAWS REGULATING MEDICAL PRACTICE.

Read before the American Academy of Medicine, at its Fourteenth Annual Meeting, at Philadelphia, December 4, 1890.

BY RICHARD J. DUNGLISON, A.M., M.D.,
OF PHILADELPHIA.
SECRETARY OF THE ACADEMY.

The changes in the laws of medical practice during the interval that has elapsed since the last annual meeting of the Academy at Chicago, have not been numerous or worthy of any lengthy notice. As the committee whose duty it has been to make the usual inquiry from gentlemen in each State familiar with the subject, I submit, with a few preliminary remarks, some brief extracts from the letters of such of my correspondents as have graciously responded. It will be seen that restrictive legislation is progressive and that the various State laws are, as a rule, working harmoniously and satisfactorily to the benefit of the public and the credit of the medical profession which has so zealously and actively interested itself in these statutory enactments for the protection of communities and individuals. It has been stated that nine of the different States of the Union now require an attendance upon three complete courses of lectures and graduation to entitle the holder to practice medicine in their limits. Five out of the above number are Southern States and were among the first to make the requirement of a more thorough medical education.

Dr. John H. Rauch, the efficient secretary of the Illinois State Board of Health, is of the opinion that "the rule of three courses of lectures before graduation is already assured of general observance." Perhaps in the not very distant future we may still further advance to the principles laid down in a statute of Henry VII, of England, which reads as follows: "The practice of the healing art should be limited to those persons that be profound, sad and discreet, groundly-

learned and deeply studied in physick." And yet we are startled occasionally by the retrograde movement visible even in medical teachers of reputable schools, one of which institutions recently made this frank statement in its annual announcement:

Our graduates may not be classed as scientific physicians; they may not be able to locate cerebral diseases with the accuracy with which the old phrenologists could place the mental faculties; their abdominal surgery may lack the boldness of "Jack the Ripper;" they may not distinguish the bacterium termo from the comma-bacillus, but they will in a few years be able to apply the resources of medical science and treat the peculiar diseases of their localities with a practical shrewdness which would astonish those of more ambitious training.

The published questions and answers of the State Board of Examiners of Virginia are occasionally to be found in the medical press of the country, and present some of the strongest arguments that can be advanced in favor of restrictive medical legislation. The profession, and especially the public, are to be congratulated on the fact that in that State at least it will not be possible for those who made the following responses to legitimate questions to practice medicine:

Symptoms of œdema of the glottis are that the patient feels husky and has sore throat. I would amputate it if necessary. I would do the operation within three or four months if it was a bad case.

The dose of morphia sulph. for a child of five years, hypodermically, would be one-fourth grain, and if that doesn't give relief, I would give one-half grain.

The dose of antipyrin for a child five years old is fifteen grains every three hours.

The kidney is a muscular formation, in shape oblong, color quite dark, weight about one pound to one and a half, but may vary considerably.

The sympathetic system is composed of all the filament of nerves that start from the spinal cord, and are distributed to all parts of the system, especially the brain. The cervical portion ramifies the encephalon in general. The dorsal portion ramifies the anus.

Extra uterine pregnancy may be a fungoid growth or tumor fibroid in its character or any extra growth in the uterus would be called extra uterine pregnancy.

A breech presentation may be known by the sense of touch, the buttox being different in formation from the cranium. The anus is different from the mouth, absence of tongue and nose. Get your finger in the inguinal region soon as possible and assist your patient by firm but gentle tension.

Dr. John B. Roberts, one of the Fellows of the Academy, in a paper read before the Medical

¹ The chief work of reference for all inquirers as to the provisions of laws regulating medical practice is, of course, the Report by Dr. Rauch of the Illinois State Board of Health, especially its latest issue.

Jurisprudence Society of Philadelphia, last winter, referred to the same subject, and related a number of similar illustrations of ignorance, some of which were quoted from an interesting paper presented some time since to the American Medical Association by Medical Director Albert L. Gihon, U. S. Navy, a former President of our Academy:

The normal temperature of the human body is from 112° to 140°.

The temperature of the system is variable. In health the cuticle stands at 70°.

The average respirations are 70 per minute.

The best way to facilitate the expulsion of the placenta is to let the woman get up and walk about the room, allowing five minutes to elapse after delivery before requiring her to get up and walk.

Phymosis is the result of old age.

The difference between galvanism and electricity is that one of them is the substance itself and the other its use.

Phosphorus burns and makes nitrogen gas.

The technical name of rhubarb is columbo.

The Minnesota Board has also published some of the far from brilliant replies of applicants in that State (*North-Western Lancet*, May 1, 1890). The public should feel happier in the exclusion from the opportunity to practice of such a respondent as he who stated, in reply to a question, that "the gland penis passes through the prostate gland;" or that "in cases of death from suffocation the bronchia remain *in situ quo*;" or that "one of the principal symptoms of scarlet fever is malice on the part of the child . . . the sequelæ may be death or recovery."

Perhaps if education should ever approach in its completeness that said to be now required by the University of Coimbra, there would be hope that even these aspirants for a place in the ranks of qualified medical practitioners might in time be enabled to pass a respectable State's examination; for we learn that in that institution fourteen years' study are exacted; six spent in obtaining an ordinary education, three in a preliminary scientific course, and five in purely medical studies.

We will now, as briefly as possible, pass the various States in review, quoting the opinions of recognized authorities, as exhibited in their personal correspondence up to the latest possible date.

Dr. Jerome Cochran, Senior Censor, Medical Association State of Alabama, writes as follows:

No change has yet been made in our law to regulate the practice of medicine, but efforts to have the law amended are now pending before the General Assembly, with the prospect in our favor.

We understand that additional legislation is required in that State to enforce the penalty.

Dr. R. G. Jennings, Secretary of the Arkansas Industrial University, at Little Rock, writes as follows:

In 1881 was passed an Act "To Regulate the Practice of Medicine and Surgery in the State." This Act has not

been amended or changed, although we have at every session of the legislature made earnest efforts to do so. It establishes County Boards of Examiners, and an applicant passing *any county* board, however careless and indifferent it may be to the interests and welfare of the people, is granted the license or privilege of exercising, or rather practicing, in any other county in the State. Some county examiners, therefore, who are *liberal for the fees*, do most all the examining, and thereby injure the profession. We hope to accomplish something in the way of a change this winter, the legislature convening in January, 1891.

In regard to California, a recent editorial in the *Pacific Medical Journal* (August, 1890) makes the following pointed remarks:

California needs a new medical law because her standard is too low, and there is no other way by which to elevate it. It is much lower than that required by many other States in the Union, by Canada and by most, if not all, European countries. The result is plainly apparent. California will become the dumping ground for third-rate practitioners who cannot receive recognition in other places. The *pro rata* of physicians to the population, already high, will assume frightful proportions, and this, coupled with the fact that many of these have been forced from other places because they were ill qualified, or unscrupulous, or both, puts the medical future of California in no flattering position. The people will be in a great measure at the mercy of ignorant and bad men, and the medical profession will suffer disgrace and defeat. This is not an admission that scientific medicine is not able to take care of itself. It means that we, as a State, cannot afford to be behind all others and be compelled to receive and use the material which they cast out as refuse. France has one physician to every 3,000 people, Germany one to 1,500, the United States one to 600, and California, that boasts of her climate and the good health of her people, one to 500. A year ago, Los Angeles had one physician to 301 people, and San Jose one to 221.

From Dr. Frank H. Caldwell, Secretary of the Orange Co. Board of Health, Fla., we learn that:

There has been no change in the laws regulating the practice in Florida. The law in the Seventh Judicial District has been effective; we have succeeded in convicting several who were endeavoring to practice without the necessary license. Our Board will meet on December 12 and there are quite a number of applicants for certificates. Our standard is 80 per cent. As soon as I can get out the questions for examination, I will forward you a copy; and I feel assured that you will recognize the fact that none but qualified practitioners will be able to pass the examination which we give.

The report of the State Board of Health of Illinois for 1889 illustrates the efficacy of its laws for the regulation of medical practice. When the law went into effect there were in the State, engaged in practice, 7,400 persons. Of these 3,600 were graduates from some medical college, while 3,800 were non-graduates. In other words, the graduates constituted only 48 per cent. of all engaged in practice. On January 1, 1890, the percentage of non-graduates to the whole number was only 9. From 3,800 the number has been reduced to 575. The total number of physicians in the State is less now than it was twelve years ago.

Dr. J. F. Kennedy, Secretary of the Iowa State Board of Medical Examiners, writes:

The only change in the Medical Practice Act of this

State since its passage was an amendment to issue certificates to those who had passed satisfactory examinations before other State Boards. The law originally did not admit this. Our law is working well. Its beneficent provisions are thwarted somewhat by our pharmacy law, which allows the Commissioners of Pharmacy to issue a vendor's permit to itinerant medicine proprietors, whether physicians or not. Under this permit they practice the grossest charlatanism. Our medical law is yearly growing in favor. It is too liberal in that it allows all kinds of advertising and takes no cognizance of professional or moral character, except that it permits the revocation of a certificate upon the conviction of a felony in connection with his practice.

Dr. J. N. McCormack, Secretary State Board of Health of Kentucky, states that the law has met with general favor with both the medical profession and people. He calls especial attention to the provision which prohibits traveling empirics from registering or practicing at any place in the State. His best information is that it has forced about 400 to either retire from practice or leave the State.

Dr. Lucien F. Salomon, Secretary of the Louisiana State Board of Health, writes that no changes have recently been made in the laws regulating the practice of medicine, and adds:

In regard to my views as to the working of the present Act regulating practice in this State, I have nothing to add to what I have already expressed in a previous communication, except that time has to a great extent cured the defect which existed under section 3 of Act 1882 of the General Assembly of Louisiana the law under which we are now working. It is very seldom that we now have an application from any one to be registered without a diploma and having been engaged in the practice of medicine for a period of five years prior to the passage of the Act, as provided in said section.

At the last session of the Legislature efforts were made to have the present law amended, but without result. A bill was introduced providing for the appointment of an Examining Board and other regulations, but was killed in committee, owing to the efforts of the homeopaths, who had friends in the Legislature.

From Dr. A. G. Young, Secretary of the Maine State Board of Health, we learn that there have been no changes as to laws regulating the practice of medicine, and that there are no laws whatever bearing upon this point. Some of the legislators who will meet in January are said to be interested in doing something in this direction.

Dr. George H. Rohé, of Baltimore, Md., writes that the last Legislature of Maryland passed a new medical law, but the Governor failed to sign it. They are therefore living under the old law passed in 1888, which is not enforced.

Dr. H. B. Baker, Secretary of the State Board of Health of Michigan, writes as follows:

I think the profession in Michigan are much nearer an agreement on what should be done, than ever before.

At the October, 1890, meeting of the State Board of Health, the subject of an attempt to stop the continued influx of unqualified practitioners was brought up, through a communication from George Duffield, M.D., Secretary of a committee of the State Medical Society, whereupon the following preamble and resolutions were adopted:

WHEREAS, It is agreed by all classes of people that the public health would be much better protected if none but properly qualified persons were permitted to practice

medicine, and thus to have in their keeping measures relative to life and death.

Resolved, That it is believed to be practicable, through judicious legislation, to so organize the present legal medical practitioners in Michigan, as that through representatives, elected by themselves, they shall guard the entrance to the profession, by a preliminary examination of students and a final examination of graduates of colleges and of proposed practitioners who come from other States, so that the entire medical profession of this State shall be united in the effort to improve the qualifications of its new members.

Resolved, That the Secretary of this Board be directed to transmit a copy of the foregoing preamble and resolution to the chairmen of the committees on public health in the Senate and House of Representatives in the State Legislature, as soon as it is in session.

Dr. Arthur Sweeney, Secretary of the State Board of Medical Examiners of Minnesota, writes as follows:

No changes have taken place in the Minnesota Medical Act since its passage in 1887. The three years of legislation in Minnesota have demonstrated the wisdom of the framers of our law. During the two years from July 1, 1885, to July 1, 1887, 429 licenses were granted by the former Board, under the law which recognized diplomas from reputable schools and exacted examinations only from non-graduates. During the three years of the present law 223 applicants have been examined, of whom 138 were licensed (61.92 per cent.), and 85 rejected (38.08 per cent.). This lessened number of applicants is due in part to a wholesome fear of not being able to pass the examination on the part of poorly educated physicians, and in part to that provision of the law which requires that candidates having graduated later than 1887 "must present evidence of having attended three courses of lectures of at least six months each," thereby excluding graduates from short term medical schools.

The law has passed the stage of opposition, its beneficial operation awakening a public sentiment in its favor which ensures its permanency. The law is administered, not in the interest of the physician, but for the benefit of the community, in order that the public may be assured of the character, ability and education of its physicians. It has proven a bulwark against quackery and the less obvious peril of ignorance and incompetency, and has practically rendered Minnesota free from "cancer doctors," itinerant medicine vendors and other mountebanks that disgrace so many States. It has operated with severity upon half-educated and incompetent physicians, and has mercilessly driven from the State all except those whose ability and fitness were demonstrated by rigid examination. The law has reduced the number of "irregulars" (those who were non-graduates or who were licensed by reason of practice prior to the passage of the law) from 351 in 1883 to 263 in 1888, and to 149 in 1890. This is due to the fact that the advent of a better educated and more scientific class of physicians has driven to the wall the larger part of that dangerous element.

The especial benefit of the law is in the fact that the standing of the physician in the eyes of the public is improved, for practically the license of the Board is a certificate of ability and competency.

My experience leads me to believe that the best results in the line of higher medical education can be derived from compulsory preliminary examination by medical colleges, the lengthening of the term of instruction, and the separation of the diploma-granting body from that which gives the instruction. The establishment of a uniform medical law in all States, on the basis of that recommended by the American Medical Association, would be a great benefit; but, unfortunately, the time has not yet come to render it feasible.

In conclusion I would say that the Minnesota medical

law has proven its efficiency, has raised the standard of medical education within the borders of the State, has driven out and prevented the influx of quacks, has promoted harmony among physicians, and has protected the public. I would call your attention to the fact that North Dakota has adopted a law identical with ours, and that Washington has one based upon it.

Dr. George S. Homan, Secretary of the State Board of Health of Missouri, reports that no changes have been made in the law regulating the practice of medicine in that State since its enactment in 1833. In his opinion the change desirable to be made would be in the direction of placing this duty exclusively in the hands of the medical profession of the State through a body chosen by themselves—briefly the right of self-government.

The *Boston Medical and Surgical Journal*, October 9, 1890, states that the new law of the State of New Jersey, which went into operation recently, contains some features worthy of note.

The execution of the law is vested in a Board of nine members, appointed by the Governor for terms of three years. It is provided that the Board "shall consist of five old school, three homeopaths, and one eclectic," and further, that "no member of any college or university having a medical department shall be appointed to serve as a member of said Board." The new regulations apply only to those who commence practice in the State after the passage of the Act, preceding practitioners being already registered under a previous law.

All examinations are to be in writing and both "scientific and practical, but of sufficient severity to test the candidate's fitness to practice medicine and surgery. If the applicant intends to practice homeopathy or eclecticism, the member or members of the Board of those schools shall examine said applicant in materia medica and therapeutics." A license shall not issue unless the applicant passes an examination satisfactory to all the members of the Board.

A somewhat peculiar feature of the law provides that any applicant refused a license by the Board "for failure on examination, may appeal from the decision of said Board to the appointing power thereof, who may thereupon appoint a medical committee of review consisting of three members, one from each school of medicine, who shall examine the examination papers of the said applicant, and from them determine whether a license should issue, and their decision shall be final. If said commission by an unanimous vote reverse the determination of the Board, the Board shall thereupon issue a license to the applicant. The expense of said appeal shall be borne by the applicant."

The Board may by a unanimous vote refuse to grant a license for the following causes: "Chronic and persistent inebriety, the practice of criminal abortion, conviction of crime involving moral turpitude, or for publicly advertising special ability to treat or cure diseases which, in the opinion of said Board, it is impossible to cure."

The power of the Board is evidently very great, but it would be difficult to arrange a greater number of safeguards. In fact, it may be a question whether the safeguards against possible injustice are not so great as to hamper the action of the Board.

In New York State, it was mentioned, editorially, in *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, that:

The law approved by the Governor on June 4, 1890, will mark a new era not only in New York, but, incidentally, in the entire country. . . . The first cardinal point which occurs to us is this: that the State presumes to re-

affirm and to emphasize the fact that it alone has jurisdiction over the practice of medicine within its own limits. It may not only determine as to who may practice medicine, but it also presumes to assert what the qualifications of its practitioners shall be. In the exercise of this power it recognizes the responsibilities which it assumes, and seeks to make the best provision. In the second place, it proposes to redeem the profession from illiteracy by the requirement of a satisfactory preliminary education as a condition to an entrance upon the study of medicine. In the third place, it provides for a definite and uniform standard of examinations, and each and every student must attain to that standard as a condition to graduation. In the fourth place, it divorces medical teaching from the licensing power. To this end the Examining Boards are under the supervision of special examiners, who are appointed by the Regents, and who themselves cannot be members of those Boards. And finally, it compels the colleges to teach their students three years, instead of two.

We have, then, in this single bill, the requirements of preliminary education; a definite standard for examinations; a separation of teaching from the licensing power; and a three years' college course. Thus grandly has the State redeemed itself from what had threatened her as a sad misfortune.

The *Medical Record*, in an editorial written soon after the approval of the bill, is not wholly satisfied with its provisions. It states that:

The law allows any person who wishes to matriculate as a medical student, to pass his preliminary examination at any time during his first three years of study. This practically nullifies the law, and permits any man to enter upon the study of medicine without a test of his educational fitness. The law, as it stood before, had some defects which could have been easily remedied. The present amendment totally destroys its force. It was secured, as is well known, through the political influence of the managers of certain medical colleges of this city, and against the wishes and judgment of the medical profession of the State as a whole. The second piece of pernicious legislation was the enactment of a law establishing three Boards of Medical Examiners. This was done, also, despite the protests of the vast majority of the medical profession, including even many prominent homeopaths. We trust that next winter there will be concerted action to secure the repeal of the triple board law. A law was passed providing that physicians who come from another State must pass a qualifying examination before beginning to practice here. This law is a wise and proper one.

Dr. W. J. H. Bellamy, of Wilmington, N. C., writes as follows:

No one can now practice medicine in North Carolina unless licensed by our Board of Medical Examiners. The penalty for violation of law is fine and imprisonment. All physicians had to register prior to January 1, 1890. Since that time only licentiates can register. The law seems to be working well.

According to the new law regulating medical practice in North Dakota, no one can practice medicine until he has passed an examination in all the primary and final branches. No one will be admitted to such examination until he has taken at least three courses of lectures of six months each.

Oregon has a Medical Practice Act, and it was not long in force before it drove from one of the cities a certain advertising specialist. A local paper commented upon this result as follows:

Upon what hypothesis the Board rejected his diplomas

we can't divine. Dr. A.— is one of the oldest specialists on the American Continent, and seventeen years ago he practiced in this city for a period of four years. He has practiced in San Francisco, Philadelphia, Chicago, and many other cities of like importance, and is recognized as one of the greatest eye and ear physicians of this age. This unfortunate circumstance will certainly be an unwelcome piece of news to the press of this coast, as the doctor is one of the heaviest, and most extensive advertising physicians in America, and had he located in Portland, as he expected to do, he would have advertised in every newspaper on the coast, and probably spent \$50,000 the first year with newspapers.

The *Medical Record* recently referred as follows to legislation in Oregon:

In a bill to regulate the practice of medicine, recently introduced in the Oregon Legislature, there is a clause, providing for the revocation of licenses for "unprofessional conduct," which is defined in the bill as follows: First, the procuring, or aiding or abetting in procuring, a criminal abortion. Second, the employing of what are known as "cappers" or "steerers." Third, the obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured. Fourth, the wilfully betraying of a professional secret. Fifth, all advertising of medical business in which untruthful and improbable statements are made. Sixth, all advertising of any medicines or of any means whereby the monthly periods of women can be regulated or the menses reestablished if suppressed. Seventh, conviction of any offence involving moral turpitude. Eighth, habitual intemperance.

At the last annual meeting of the Pennsylvania State Medical Society, it was decided that the presidents of the State and county medical societies should constitute a legislative committee "to secure the passage of a medical law that will give protection to the people of this State against incompetent practitioners of medicine." The present registration law has never been regarded as anything more than a stepping-stone to restrictive laws of greater force and character.

Dr. H. D. Fraser, Secretary of the State Board of Health of South Carolina, reports that the laws regulating the practice of medicine have undergone no recent changes. The profession is satisfied with them, as they seem to be all that is necessary.

Dr. D. E. Nelson, Secretary of the State Medical Society of Tennessee, states that

The only laws that have ever been passed by the legislature of this State were passed two years ago, and although imperfect as you will see, or have seen, they work a great deal of good, and I think, after some modifications, which we hope to secure at this winter session of the legislature, will do a great deal more of good. There is no rebelling against the law. There are two points in our law which I think should be changed. One is that any one can act as a *midwife*; the other is that all parties should be subjected to an examination, for, as we all do well know, some unworthy men are allowed to practice with a diploma from what stands as a good school.

Dr. George Cupples, the efficient Chairman of the Committee on Legislation of the Texas State Medical Association, has prepared a circular letter to the medical profession of that State in reference to the total neglect of preventive medicine in Texas, through the failure of previous legislatures to frame enactments on sanitation, notwith-

standing the earnest and repeated prayers of the profession; the widespread necessity for such legislation, has placed that great and wealthy State in a contrast anything but honorable, with the position occupied in this matter by no less than thirty-five States which have created Boards of Health, charged with the care of the public health, and with the care of admitting none but competent physicians to practice medicine and surgery in their limits. A draft of a law is offered by this committee which, it is hoped, will be adopted by the legislature when it convenes.

The Medical Examining Board of the State of Washington consists of nine members, appointed by the Governor, three only of whom are regular physicians. A committee of the State Medical Association was appointed to draft a communication to the Governor protesting that over 700 of the 800 practicing physicians in the State are regular, yet the profession is in a minority on the board, and asking that a redistribution may be made whereby they may have a pro rata representation in that body.

A correspondent of the *Medical News*, under date of August 16, 1890, referring to the examination in that State, writes that

Laying aside all prejudices, a perusal of some of the questions of the "physio-medic" and eclectic members will show the injustice of having men of that class on the board. During the examination the writer carefully copied the questions, and, in some instances, the spelling—for the question-sheets came to us in the handwriting of the members by whom they had been prepared. The "physio-medic" asked, "What is *peritussis*?" and also the very comprehensive question, "What does delayed dentition prognosticate?" To this last I could not answer, nor could the two or three members of the board, to whom I afterward repeated the question. In Diseases of Women he questioned upon "*leucorrhoea*," "*amenorrhoea*," and "*dysmenorrhoea*." Other questions of his were, "Define *mammary abscess*," and "What is *pelvic abscess*?" while the last question was upon "*lacerated peroneum*."

The eclectic prepared questions on anatomy and physiology, one of which read as follows: "Name the divisions of the abdominal aorta, large branches, and from where does the lower extremities derive their blood supply?" Another asked, "What's the *pericercary* condition of pepsin in the stomach?" to which we afterward discovered he wished us to answer "Hydrochloric acid." Another question was, "What's the effect of too much red corpuscles in the blood?"

Under the heading of Preventive Medicine in the list of questions prepared by a homeopath, we found two as follows: "What means would you take to resuscitate from an overdose of chloroform?" and "How would you treat a case of poisoning from opium or morphia?" He evidently looks at the subject broadly, and thinks that any means of preventing death should be placed under the head of preventive medicine.

Dr. T. A. Harris, Parkersburg, W. Va., says:

I think that with time the laws regulating the practice of medicine in this State are being enforced. At first there was some difficulty, but I think with each year that difficulty has grown less, and year by year there is less objection manifested and less disposition to evade them; and further, the body of the people, the laity, are more and more disposed to support them. At first there was a feeling that certain doctors had gotten the law

passed for their personal advantage, but the people are coming to see the true purpose of the law; and it is certain that neither this nor any law can be enforced in face of a decided popular opposition.

Dr. J. T. Reeve, Secretary of the Wisconsin State Board of Health, writes that there have been no new laws enacted and no recent changes have been made in the laws of that State.

Dr. Francis W. Campbell, Secretary of the College of Physicians and Surgeons, Province of Quebec, states that the present Medical Act has been in force in this Province for ten years, and seems to give, upon the whole, good satisfaction.

Dr. R. A. Pyne, Registrar of the College of Physicians and Surgeons, of Ontario, Dominion of Canada, writes as follows:

There have not been any changes made in our Medical Act since the year 1887, when we got some amendments, the important features of which are, limiting the time of action in cases of malpractice. The other part of the amendment refers principally to the erasing of names for unprofessional conduct; some similar powers exist in the Imperial Medical Act, and every year they strike the names of practitioners from the list for irregular unprofessional conduct.

This paper concludes the series of annual reports in regard to "Laws Regulating Medical Practice," which it has been my pleasant duty to prepare and offer, as Secretary of the Academy, annually for your consideration, and which, by my resignation of the office, it will become the duty of my successor to continue. A retrospective glance at these annual sketches, from their inception, would exhibit evidence of gratifying progress in the different States of this country in the effort to repress quackery and to protect the public against the imposition of the ignorant and incompetent.

THE BASIS OF SCIENTIFIC MEDICINE AND THE PROPER METHODS OF INVESTIGATION.

*Introductory Lecture delivered in the Post-Graduate Medical School
of Chicago, January 6, 1891.*

BY N. S. DAVIS, M.D., LL.D.,
OF CHICAGO, ILL.

Gentlemen and Members of the Medical Profession:

We have assembled this evening to inaugurate the first formal course of post-graduate medical instruction in this building, recently completed and dedicated to the interests of the sick and to an important department of medical education—a department, indeed, that had its first beginnings in this city and in connection with the Chicago Medical College.

At the close of the regular annual college term of the Chicago Medical College in the spring of

1880, the faculty inaugurated a well arranged course of four or six weeks' duration, exclusively for the benefit of practitioners or graduates in medicine. The course was largely clinical and practically demonstrative, but included also a review of whatever was new in etiology, pathology and therapeutics. It was attended by thirty-nine practitioners from this and seven of the surrounding States, and was repeated annually for several years. Its marked success attracted general attention, and speedily led to the institution of similar courses in connection with the Rush Medical College, and with several of the leading medical colleges in other cities. This rapid increase in the number of such courses in different cities, and nearly at the same season of the year, so divided the number of practitioners who could afford to leave their practice, that the number in any one college was too limited to make it profitable to maintain them, which naturally led those teachers connected with the several schools and hospitals to unite in forming separate schools for post-graduate instruction, in which short courses to limited classes could be given, in nearly all parts of the year, and on all practical subjects of importance. The important department of post-graduate medical education, thus inaugurated in this city only ten or eleven years since, has not only demonstrated its importance and established its permanent institutions, called polyclinics and post graduate schools, in the leading cities of this country, but the same is now beginning its development in London and other places in Europe. It is appropriate, therefore, that I should embrace this opportunity to emphasize both its origin and gratifying progress, before entering upon the discussion of the topic announced for this evening.

What constitutes the basis of scientific medicine, and what methods of investigation are best adapted for its study and more complete development, are questions worthy of most thoughtful consideration. There are still those, both in and out of the profession, who deny that medicine has any scientific character, and who talk and write of old and new "schools of medicine" consisting of the theoretical dogmas of some dreamers of past generations. But in doing so they only betray the shallowness of their own attainments, and especially their ignorance of the real medicine of to-day.

If there be no scientific basis for modern medicine, then there are no sciences known to the human family except those of pure mathematics; for the facts and materials that constitute the different branches of medicine are taken or segregated from every other science or department of human knowledge. Some sciences, as the mathematical, are composed of such facts and propositions as are capable of being so placed in relation to each other as to admit of the deduction of fixed and uniform conclusions, and hence are called

*Dr. Dunglison was, by a special complimentary resolution of the Academy, at its annual meeting December 4, 1890, appointed a committee of one to continue annually his interesting reports on the progress of medical legislation and the working of laws regulating medical practice.—Editor JOURNAL A. M. A.

"deductive sciences." Others are composed of so great a variety of facts or elements, many of which are influenced by varying or unstable causes, that they admit only of careful comparison and classification in such manner as to admit of conditional inductions or inferences instead of uniform conclusions. Hence, since the days of Bacon, they have been called "inductive sciences." To this division belong geology, botany, and, indeed, all the branches of knowledge concerning the vegetable and animal kingdoms of nature. No one of these branches of knowledge or natural sciences are complete. That is, all the facts and relations belonging to any one of them have not been fully observed and classified; yet no one denies the propriety of calling them sciences, incomplete, it is true, but each progressing towards completion with every additional accurately observed fact or improved means and method of investigation. Every recognized branch or department of modern medicine is composed of facts and principles belonging to the wide domain of natural and physical sciences and their application to the relief of human suffering, and consequently is fully entitled to the name of "inductive science." Until full and accurate dissections had revealed all the structures of the human body and their relations to each other, and observation and experiment had revealed the uses or functions of each part, there could be no science of human anatomy or physiology. And until the progress of elementary and organic chemistry had revealed the composition of the fluids and solids of the human body in health and disease, there could be no science of medical chemistry and materia medica. All these have had their origin and development during the last three centuries. And yet human anatomy and physiology including histology, and medical chemistry and materia medica, constitute the basis of all scientific medicine. All that is valuable or established in etiology and sanitation has resulted from the application of medical chemistry and histology to the study of the causes of disease; pathology and pathological anatomy are but abnormal physiological and anatomical conditions; therapeutics consists in the adjustment of the materials of materia medica to the control of pathological processes; and the details of operative surgery and midwifery are but the application of anatomical and physiological knowledge to the correction of deformities, the relief of injuries and the removal of obstructions to which the human body may be liable.

Hence, I repeat that those departments of the great fields of natural and physical sciences known as anatomy, histology, physiology, pathology, medical chemistry and materia medica, constitute the acknowledged basis of modern medicine; while therapeutics or practical medicine, surgery, and sanitation or preventive medicine, are strictly ap-

plied sciences developed by the same methods of observation, experiment and induction that have brought into existence all the other inductive sciences. Dr. W. N. Broadbent, in his interesting address before the British Medical Association at its recent meeting in Birmingham, on "Therapeutics as an Applied Science," says "that therapeutics must always belong to the order of applied sciences, and will bear much the same relation to physiology in an extended sense as engineering to mathematics. Just as engineering is applied mathematics, therapeutics will be applied physiology." If in the foregoing paragraph, and throughout his address, Dr. Broadbent had substituted the word *pathology* for physiology, his declarations would appear to me far more correct. Physiology is the science that embraces all the facts, principles and laws relating to the healthy or normal processes or changes taking place in living beings; and may be properly styled the science of health. Pathology is the science that embraces all the known facts, principles and laws relating to such deviations from the normal or physiological processes as constitute disease, and is, therefore, physiology applied to the study of abnormal conditions. Therapeutics relates to the application of remedies for the control, not of healthy or physiological processes, but of morbid or pathological conditions, and is consequently applied pathology.

Dr. Broadbent fairly concedes this when in another part of his address he says: "By therapeutics we mean all those measures by which we combat and endeavor to subdue disease, and if we ask what would fulfil the conditions of therapeutics as a science, the answer would be, a complete knowledge of the processes of disease on the one hand, and of the mode of action of remedies on the other."

This is a concise and correct statement of the real relations of therapeutics to pathology, and clearly points to those methods of investigation by which the scientific character of both can be rendered more nearly complete. As the "processes of disease" (pathology) are simply deviations, in some direction, from the normal standard of the processes of health (physiology), a successful study of the former must have for its basis or point of departure a complete knowledge of the latter. In other words, our knowledge of the physiological or natural processes taking place in every organ and structure of the human body, and the agencies by which they are maintained, must be complete, before we can appreciate with clearness and certainty the pathological or abnormal processes taking place in the same structures, and the causes that may produce them.

The present advanced condition of organic and analytical chemistry, with the varied instruments of precision founded on mathematical and physical laws, furnish the means, if correctly and patiently

directed in the proper lines of experimental research, for making our knowledge of human physiology as complete as an inductive science can be made. And the same means, applied with the same accuracy and patience to the investigation of the morbid processes constituting disease, would speedily render our knowledge of pathology sufficiently complete to constitute a reliable basis for an applied science of therapeutics.

I will go one step farther, and venture the assertion that if the same modern chemical, philosophical and mathematical resources for observation and experimental research, were carefully and accurately directed to the study of etiology, or the causes of disease, that important department of the great field of medicine, hitherto filled with a chaotic aggregation of partially observed facts, fanciful speculations and false assumptions, would soon attain all the characteristics of a true science, and furnish a more reliable basis for sanitation, preventive medicine, and one of the most important indications or purposes in the treatment of disease.

One of the most important obstacles to real progress in scientific development and accuracy, is the want of perseverance on carefully devised plans for insuring completeness of investigation before announcing results.

Almost every problem within the domain of etiology, pathology and therapeutics, is complex from the number of the elements requiring consideration for its correct solution, and sometimes the coincident work of different individuals to secure the same end. Very much of our scientific and experimental work is done in fragments, and necessarily results in the development of isolated facts and partial views, filling the pages of our literature with ever changing and often contradictory inductions. For example, during the last two decades of time it has been claimed that abnormal temperature or pyrexia is the chief pathological factor in the general fevers; and by logical inference that antipyretics constitute the chief remedies. Hence, as often as the pharmaceutical laboratories developed a new, complex, artificial compound of the coal-tar series, and the experimental therapist proved it capable of reducing the temperature of the body, it was applied with the greatest freedom for the control of the pyrexia of all general fevers. The two isolated facts of high temperature and the antipyretic property of the remedy, were the sole guides of the physician, and in many instances to the ultimate detriment of his patients. That complete knowledge of the processes of disease mentioned by Dr. Broadbent, requires not only the fact of high temperature or pyrexia, but also the processes by which it is produced in each variety of fever. Physiology has taught us that in the living, healthy animal body there are in constant operation processes by which heat is produced, and other processes by which it

is dissipated, and that the natural temperature is the balance or average result. Consequently, abnormally high temperature must result either from a diminution of the processes of heat dissipation, or from an increase of those of heat production, or from an unequal alteration of both. It follows that one remedial agent, when properly used, will act as an antipyretic by increasing heat dissipation, and another by diminishing the heat production; and the true scientific basis for choice of remedies in a given case of pyrexia, is a clear knowledge of the *modus operandi* of the remedial agents, and an equally clear appreciation of the processes on which the abnormal temperature depends.

Another serious obstacle to scientific progress consists in the frequent formulation of inductions, or more properly assumptions for practical guidance, founded on an inadequate number of facts, and sometimes on mere analogies. Thus, when in the progress of organic and physiological chemistry, it had been fully demonstrated that the chief proximate elements of our food could be divided into two classes, one of which was composed essentially of oxygen, carbon and hydrogen, and the other of these three with the addition of nitrogen, the first were called hydro carbonaceous and the latter nitrogenous foods. And as the organized elements of animal tissues were composed of the same four elements, it was *assumed* that the nitrogenous elements of food were appropriated to the growth and repair of such tissues; and as oxygen disappeared through the air-cells of the lungs and was replaced largely by carbonic acid, as in combustion out of the body, it was *assumed* with equal positiveness that the hydro-carbonaceous food elements united with oxygen in the living body, resulting in the formation of carbonic acid and water and the evolution of heat, and hence were called respiratory foods.

The only facts clearly demonstrated by experimental investigation were that the oils, starch, sugar and gum in our food were hydro-carbons, and that the albumen, fibrin, casein, gluten, etc., were nitrogenous, on the one side; and on the other, that the living animal structures were nitrogenous, with a constant consumption of oxygen and liberation of carbonic acid and heat. The inductions from these facts, that the carbonaceous food elements only were converted into carbonic acid, water and heat; and that the nitrogenous were converted into tissues, were simple theoretical assumptions, without the support of a single well devised series of experiments for their demonstration, while many accurately observed facts militate against their correctness. These theoretical assumptions were not limited to the food elements I have named, all of which are the products of vegetable or animal growth, but were extended to many other substances of entirely different origin merely on account of analogous chem-

ical composition. For example, the chemist readily demonstrated that all the varieties of alcohol were composed of oxygen, hydrogen and carbon, and consequently were chemically pure hydro-carbons; and as the ethylic or common alcohol was being largely used in fermented, and distilled drinks, it was directly assumed that it united with oxygen in the living system, resulting in the production of carbonic acid, water and heat; and was placed in the front rank of respiratory foods. These simple theoretical assumptions, plausibly illustrated by many supposititious chemical formulæ, have occupied a prominent position on the pages of both medical and general literature from the days of Baron Liebig to the present time. And yet, all the carefully devised and patiently executed experiments of the chemico-physiologists of Europe and America have only proved that the hydro-carbons derived from vegetable and animal growth undergo molecular or metabolic changes in passing through the digestive organs before appearing as natural elements of the blood, while those derived from fermentation or retrograde processes undergo no such molecular changes in the digestive organs, but are rapidly imbibed and appear unchanged in the blood, thereby demonstrating that mere analogy of chemical composition can afford no safe basis for the inference that the same analogy will apply to their behavior when taken into the living body. I may add that these numerous experimental researches, aided by all the modern instruments of precision, have failed to develop any evidence that the presence of the alcoholic class of hydro-carbons in the living system is productive of either carbonic acid, water, heat or any other kind of force, but the reverse. Indeed, the plain tendency of present experimental researches is towards demonstrating the fact that the vegetable kingdom only can assimilate and grow from inorganic matter and the products of retrograde or destructive processes, while the animal kingdom assimilates and appropriates to itself only the products of vegetable and animal growth.

Still another potent hindrance to scientific progress, is the constant tendency to concentrate all attention on the results of any new line of investigation that may be started to the neglect or rejection of facts and inductions previously well established, and their value verified by abundant clinical observation. Up to the close of the first quarter of the present century the processes of disease were studied and classified by a patient and close observation of the actual symptoms or phenomena of disease at the bedside of the patient; and the effects of remedies were determined by careful study of the results of their empirical use with only the limited aid offered by general chemistry. The same methods of observation were applied to the study of the causes of disease, especially in relation to the conditions of the climate, soil, water,

seasons of year, age, sex and occupation. It was preëminently the era of symptomatology and active medication, during which were established many important facts in both pathology and therapeutics, and was accompanied by fair success in the treatment of disease as reliable records will show. But with the second quarter of the century came the brilliant studies in morbid anatomy led by Louis, Chomel, Gerhard and others, resulting in more accurate differentiation of diseases and more exact knowledge of the structural changes in the several stages of their progress.

To this was soon added the application of the microscope to the study of minute anatomy, both normal and abnormal; and hence the study of morbid processes at the bedside rapidly gave place to the study of the results of morbid processes in the morgue and in the laboratory, culminating in the evolution of the cellular pathology of Virchow and the substitution of pathological anatomy for pathology proper. Just in proportion as these structural changes and the associated cell proliferations came to occupy the attention of the profession, carrying with them the thought that diseases were fixed processes of development, maturity and decline; in the same ratio active interference with remedies was discouraged and an era of therapeutic skepticism, expectancy, or faith in the *vis medicatrix nature* as presented in the popular writings of Bigelow, Forbes and Holmes, ensued. All the active therapeutic measures of the preceding era were declared unnecessary or injurious and were superseded by fresh air, more cleanliness, more food, and patience until the climax was reached in the declaration of Chambers, that all disease is a diminution of life, and all proper treatment is to sustain or support the life. Consequently food and so called stimulants became as popular as depletion and evacuants had been during the preceding era. But only a few decades were allowed to pass before the continued use of the microscope in the study of pathological anatomy, revealed the fact that in all the protracted fevers, or acute general diseases, extensive molecular and tissue degenerations were developed with an increasing ratio of mortality. This led to the erroneous opinion that the protracted high temperature of pyrexia was the cause of such general molecular degeneration, and as a necessary inference, that the most important purpose to be gained by treatment was to hold the temperature in check by antipyretic measures. The cold douche, the cold bath, the cold sponging; sedative or large doses of quinine, salicin, and other antipyretic remedies were so rapidly brought into use, that the third quarter of the century had hardly closed before acute diseases were being treated with more active agents and more heroic doses of medicine than during any part of the first quarter. This reaction towards

heroic medication has been greatly increased by the application of the microscope to the study of etiology, and the consequent rapid increase of knowledge concerning the relation of certain microorganisms to the prevalence of diseases.

The discoveries of Pasteur, Koch, Eberth and many others, in this field, have so completely concentrated the attention of the profession on bacteriology and pathogenic microorganisms, and the consequent search for antiseptics and germicides as therapeutic agents, that the bacteriology and bacteriological therapeutics of to-day have as fully superseded the pathological anatomy with its therapeutic skepticism of thirty years since, as did the the latter symptomatology and antiphlogistic therapeutics of the first half of the century. And the century bids fair to close with the profession combating disease not only with as active or heroic measures, but also with many of the same remedies that were most relied upon at its beginning. Then, opiates, to relieve pain, the two chlorides of mercury and iodine to control morbid processes, and quinine and kindred alkaloids to subdue fevers, were the chief remedies in the hands of the general practitioner; and now, under the names of anodynes, antipyretics, antiseptics and germicides these same remedies are being used with even greater freedom than at any former period in medical history. It is not the adoption and vigorous prosecution of these successive methods of investigation during the present century that constitutes an evil, for each was necessary and has added greatly to the stock of most important medical knowledge. But the evils result from the spirit of exclusiveness, dogmatism and indulgence in positive inductions from insufficient facts that characterize their pursuit, and the consequent neglect or disparagement of all that had been done before. It is the indulgence of this spirit, that makes those entering the profession during any given era, regard its methods of investigation and their results, as the chief topics worthy of their attention and strongly encourages the neglect of medical history and begets a narrowness of mental vision highly detrimental to true medical progress. Instead of permitting every new appliance or method of inquiry that opens before us a new or additional field for investigation to displace or supersede all others and engross our whole attention, the true philosophical spirit of inquiry requires us to hold all the facts and inductions that have appeared well established in one era until those of the next have been studied in all their aspects and relations to each other and to all that had preceded. A close adherence to this rule would effectually check the strong tendency to draw hasty conclusions from an inadequate number of facts or observations, and the results of every new line of inquiry would constitute real additions to our knowledge, supplying previous

defects, enabling us to make new or more accurate applications of old remedies or facts, and sometimes furnishing both new and valuable agents and new principles to guide their practical application. All the departments of medicine would thus progress in more harmony, and medical literature would become more free from mere theoretical assumptions and contradictory statements. A more thorough study of the history of medicine, and in consequence, a greater familiarity with the successive steps or stages in the development of its several branches, would enable us to see more clearly the real relations and value of any new fact, induction, or remedial agent that might be proposed. It would also enable us to avoid a common error of regarding facts, propositions and remedies presented under new names, as really new, when they had been well known and used long before, but in connection with other names or theories. Such errors are of frequent occurrence and occupy prominent places in the medical literature of to-day. The true spirit of scientific investigation welcomes every new fact, suggestion, or remedy, but holds it under careful scrutiny until all its relations, chemical, histological, physiological and pathological have been well considered. Is a new remedy proposed for the treatment of an important and well known disease, we need to know its chemical composition and affinities or reactions, its histological development if of organic origin, and its relation to other substances of similar character, to enable us to proceed intelligently and safely with its therapeutic use. Otherwise our use of the remedy must be purely empirical or blindly experimental.

A remarkable instance of this kind is at present occupying the attention of the entire profession and a large part of the public. The eminent bacteriologist, Dr. Koch, has prepared, and presented for use, a remedy that he thinks will cure pulmonary tuberculosis, especially in its earlier stages, and specifies the dose, the mode of administration, and the symptoms or effects produced by it, but positively declines to reveal its chemical composition, its mode of preparation, or even the class of substances to which it belongs. Consequently members of the profession must use it conscious that they are groping in the dark, or they must adhere to the time honored rule against using secret remedies and let it alone until the author and his immediate advisers fully make known the nature and preparation of the remedy and the clinical proof of its efficacy. Taking the remedy, however, simply as proposed by the author, it will require a most careful and connected clinical experimentation through a period of five or ten years, to determine its actual value as a remedy for tuberculosis. A few weeks of its administration is said to remove the more obvious symptoms, as cough, expectorating, etc.; but the

physical signs of tubercular accumulations in the lungs or elsewhere cannot be expected to entirely disappear in less than from six to twelve months, and the question of relapses cannot be reliably determined until from three to five years have passed. Should relapses occur, as seems probable from some indications already reported, the collateral effects of the remedy on the kidneys, the blood, and the nervous system, when resorted to every few weeks or months to arrest such relapses, will be required to be studied with equal care.

The general symptoms produced by the hypodermic use of the remedy, as described by Dr. Koch and his co-laborers, strongly resemble those of an actively poisonous ptomaine or peptotoxine, and hence it is generally supposed to be derived from the cultures of the tubercular bacilli. Only two reasons have been assigned for refusing to publish a complete statement of the composition and mode of preparation of the remedy. These, as given more fully by Von Gossler as the official representative of the Prussian government, are, first, that the actively poisonous nature of the remedy makes it necessary that the utmost care and skill be exercised both in its preparation and use; and second, that Dr. Koch has thus far not been able to render his process of manufacture sufficiently complete to obtain his *fluid* of uniform strength or quality and must consequently test, by actual trial, each product before it can be given out for clinical use. The first of these reasons is the same as that urged by every manufacturer of proprietary and trade mark medicines throughout Christendom, namely, *their* superior skill in manipulating the process of manufacture and the danger that ignorant parties would injure someone by attempting to compete with them if their processes were given freely to the world. The second reason, however, is one of real importance, and should have caused Dr. Koch to adhere to his own alleged inclination not to announce the remedy at all, until his processes for its production were sufficiently complete for reliable results. The present status of chemico-bacteriological investigations show that there are various active or poisonous ptomaines and albumose in bacteriological cultures, morbid products, and in normal secretions, the isolation and preservation of which can generally be accomplished only by complicated and delicate processes. And if Dr. Koch's remedy belongs to this class of substances, it would not be strange if its author should find himself unable to perfect any process by which it can be produced in sufficient quantity and sufficiently uniform quality to be entrusted on the market as a remedial agent.

Investigations have thus far indicated but four methods of treating directly diseases produced by pathogenic germs.

The first is by such remedies as are capable of destroying the germ by direct contact; the sec-

ond, such as if introduced into the living system prior to any active influence of the specific germs, are capable of exhausting its susceptibility to them, and thereby preventing the disease, as in the methods of Jenner and Pasteur; third, by such as when introduced into the system during the progress of the disease so actively attacks and destroys the living plasma or tissue material on which the propagation of the germs depend, that their progress is arrested with a rapid subsidence of the morbid processes and exfoliation or excretion of the necrosed material; and the fourth, by simply accumulation of an excess of the ptomaine or product of the germ itself as illustrated in vinous fermentation when the alcohol accumulates beyond a certain ratio and stops the process although there may be present plenty of fermentable material in the liquid. The remedy proposed by Dr. Koch evidently belongs to the third class, creating prompt general irritation or febrile action followed by decided necrosis or dissolution of the tissue affected by the bacilli, thereby diminishing their food and carrying away large numbers of them with the debris, but not directly destroying the vitality of the germs. It is apparent that the action of such a remedy might be both safe and efficient in the treatment of external varieties of tubercular disease, as lupus, etc., but it is equally apparent that in cases of extensive tubercular development in important internal organs as the lungs, brain, and abdominal viscera, very severe or even speedy fatal results might follow the necrosis of so much affected tissue with no ready mode of exit or exfoliation. These inferences from the *modus operandi* of the remedy, have been verified by direct clinical experience as set forth by its author, who properly enjoins the greatest caution in its use, especially in the advanced stages of pulmonary and cerebral tuberculosis. Consequently it is better that the profession generally should wait patiently until the processes of manufacture have been made reliable, and the results of clinical work by competent parties have had time to develop their real value. In the meantime, let every general practitioner endeavor to acquire the utmost skill in making an early diagnosis of tubercular diseases, at which time a judicious use of such hygiene, climatic, and remedial means as are clearly known, will arrest the progress of a large proportion of the cases; and he will be fully prepared to make the most judicious and efficient use of Dr. Koch's remedy whenever it shall become available; for such is the nature of pulmonary tuberculosis, that it is only in the earlier stages of its development and progress that any really curative treatment can be expected to succeed in effecting a permanently favorable result.

In conclusion, I will mention two popular errors, prominent in both medical and general literature, that do injustice to the character of the

profession. The first is, the very common assertion that all great discoveries in the science and art of medicine have met with unreasonable opposition and prejudice at the time, and the discoverers persecuted and sometimes ruined in their practice and professional standing. In my reading of medical history I have failed entirely to find adequate proof of these assertions. Perhaps the greatest discoveries in medicine during the three last centuries, have been the discovery of the circulation of the blood, by Wm. Harvey; the discoveries in the physiology of the nervous system, by Sir Charles Bell and his contemporaries; the discovery of the cow-pox, with the protective value of vaccination, by Edward Jenner; the discovery of anaesthesia and its applications in surgery, medicine and obstetrics, by Wells, Morton, Jackson and Simpson; and the applications of the microscope to studies in etiology, histology and pathology in our own time.

Wm. Harvey made his principal discovery concerning the circulation of the blood in 1619, but used eight years more in accumulating proofs of its correctness, and then, 1628, published a full account of it to the world; and instead of persecutions, his report rapidly gained the approval of the learned both in and out of the profession; he was accorded official positions in hospital and college, and only four years later he was made physician in ordinary to Charles I., with whose fortunes he became identified. The King was soon after defeated by the parliamentary forces, and deposed, which caused Harvey to be displaced from his hospital position, but left him still in the college, and with a rapidly increasing reputation. Less than twenty years after he had the gratification of seeing a statue erected in College Hall to his honor, with his important discoveries indelibly inscribed thereon.

Edward Jenner discovered the cow-pox as early as 1770, but spent the next twenty years in patiently studying its relation to sores on the hands of milk-maids and their exemption from small-pox, apparently counseling with no one but his friend John Hunter, by whom he was encouraged. In 1796 he ventured to vaccinate his own son; and in 1798 published a full report of all his investigations. Before the end of the same year his views were practically tested by Mr. Cline, and received the cordial public endorsement of seventy-three of the leading physicians of London. Within two years his report had been translated into nearly every language in Europe, and his views approved and practically adopted by the profession not only in Europe, but also in the Colonies of America. Within the short space of five years he was receiving testimonials in abundance from most of the crowned heads and scientific bodies then in existence. That he was denounced in intemperate language by here and there a medical or clerical crank, is true. And the

same is just as true even at this day, as the sayings and doings of existing anti-vaccination societies prove. But no one would now think of quoting the doings of these societies as evidence that the regular medical profession is either opposed to vaccination or indifferent to the reputation of one of the greatest benefactors of his race.

Indeed, so far from receiving the announcement of new discoveries with prejudice and opposition, by the medical profession, it would be extremely difficult to find a single important new fact, principle, remedy, or mode of practice, fairly published to the world during these last three centuries, that has not been respectfully received, promptly acted upon, and in less than ten years assigned to its proper place with due credit to its author. Instead of delay and prejudice, the principal evils have resulted, as I have previously said, from immature announcements and too much haste in their practical appropriation.

The second popular error consists in presenting the *extravagancies*, both in doctrines and practice, of each medical era, as evidence of the character of the medical men and practice of that time. Every age or generation has its extremists who become extravagant in the practical application of whatever rules or remedies they adopt; and their extravagancies are sure to be recorded on the pages of the current literature, and to be quoted by all subsequent generations as characteristic of that time; while the great mass of active practitioners never copy or follow such excesses. Thus, during the first half of the present century, for every excessive venesectionist like Bouillaud, there were ninety and nine intelligent practitioners who never practiced venesection except in the first stage of acute diseases, and then rarely more than once. And yet, I have not listened to a discussion concerning the practice of that period during the last quarter of a century, that Bouillaud and his few imitators were not quoted as the representative men of the time. The same rule will be found true in regard to the extremists and the conservative masses of the profession in every subsequent era.

The only remedy for these popular and unjust errors is a frequent recurrence to the standard authors of the past generations, or in other words, an honest and thorough study of the history of medicine as a necessary branch of medical education.

THE MEDICAL CLUB OF LOUISVILLE.—At a recent meeting of the leading physicians of Louisville, Ky., it was decided to construct a building, in which meetings of the club are to be held, and in which a medical library is to be located. In its construction every possible convenience will be assured. It is anticipated that this movement will command the generous support of the entire medical profession of that city.

ECTOPIC PREGNANCY. WITH REPORT OF TWO CASES.

Read before the Gynecological Society of Chicago, September 22, 1890.

BY HENRY BANGA, M.D.,
OF CHICAGO.

On June 23, 1890, a lady called at my office complaining of bloatedness, backache, and constipation. She gave her age as 27, was of American birth, had enjoyed perfect health up to her marriage four years ago; pregnant once three years ago, labor at full term, normal. Right after she got up from confinement she had ulceration of the womb, for which she was treated over a year in Milwaukee. It is an exacerbation of this womb trouble (she thinks) that now compels her to consult a physician. Upon examination I found the cervix neither lacerated nor ulcerated. In the region of the right ovary there was a painful swelling; a thorough examination, however, was impossible, on account of the tenderness of the abdominal walls. I told the patient that part of her complaint was no doubt due to constipation, and that I would first try to relieve this and pay more attention to the womb later; I prescribed accordingly. About a week later, on the 30th of June, she again called at the office on account of constipation and intense bearing-down pains. I again examined and found the uterus decidedly larger than normal, the cervix peculiarly soft and doughy; the swelling on the right side of the womb seemed also somewhat easier to be felt. I told the patient I thought she was pregnant, and the bearing-down pains might indicate a miscarriage. She repudiated the idea, as she noticed no subjective symptoms of pregnancy, and as she had always been regular with her periods. She had menstruated last on the 7th of June, and expected surely to menstruate again on the 7th of July.

On July 3d I was called to the patient's house. She suffered excruciating pains, beginning in the lower part of the abdomen and radiating down the thighs; the pains were steady and there were on intermittent, labor-like pains. Enemata opened the bowels, but did not remove the pains, which were only controlled by morphia. There was no nausea, no fever; appetite wonderfully good. In this way she passed a miserable time up to the 7th of July, the date of the next expected menstrual period. For the first time in three years the menstrual flow failed to appear. On the 12th, however, there was a show, and on the 13th she flowed quite freely. Meanwhile I had made up my mind that she was undoubtedly pregnant; and in order to satisfy myself as to what had become of the swelling on the right side, I examined on the 14th. There was no doubt that it had decidedly increased and had pushed the uterus over to the left and somewhat forward. It was exceedingly painful. To all appearances I

had to deal with a case of extra-uterine pregnancy. I thus informed the husband, and we decided to call Dr. Jaggard in consultation.

On the 18th we examined the patient under chloroform, and found the uterus enlarged, especially so in its antero-posterior diameter, pushed forward, and somewhat to the left. The cervix had the soft, doughy touch characteristic of pregnancy. To the right of the uterus, in a somewhat downward and backward direction, an elastic tumor of the size of a child's fist was felt. Between the uterus and tumor there was room enough to put in a finger. Dr. Jaggard confirmed my diagnosis and also concurred with me in recommending immediate operation. This I did at the Michael Reese Hospital, Dr. Jaggard being present, on the 25th of July.

After opening the abdomen the bowels appeared slightly stained with bloody serum. Pushing these back, the whole situation could be taken in at a glance. Having introduced a colpeurynter into the rectum (as I am in the habit of doing, in order to lift up small tumors situated deep down in the pelvis), I at once reached the tumor. There was, to the left, the uterus, twice its normal size and very turgid. The left tube, very much hypertrophied, as thick as the index, exhibited large veins. The right tube was still larger; its middle part especially showed an immense hypertrophy of its muscular elements, which spread like a fan over a tumor. The latter was of the size of a child's fist; it was glued by soft attachments to the uterus, the rectum, small intestines, cecum, and right side of pelvis. These adhesions were so loose that they easily broke down under the finger. Very little hemorrhage followed. After thus freeing the bulk of the tumor a pedicle was easily formed. I first ligated the uterine end of the tube, then I secured, by three linked ligatures, the fimbriated end of the tube and part of the broad ligament, including also the ovary. After removing the tumor there was an annoying oozing from a separated adhesion to the rectum, so much so that I decided to use a tobacco-bag tampon with iodoform gauze, after Mikulicz. The patient rallied very readily from the operation. There was considerable bloody discharge through the tampon during the first two days. The tampon was removed on the sixth day. For a number of days the temperature rose to 101° in the evening, which elevation was due to the iodoform as was clearly demonstrated by the prompt return of normal temperature as soon as we began using oxide of zinc and later on balsam of Peru. There is still (on October 26) a small fistula left, at the bottom of which I think a ligature keeps up a little discharge; otherwise the patient is well. She began menstruating, the first time after the operation, on September 18th.

Examination of the specimen showed that it

* November 11th, ligature extracted through fistula.

was a case of tubal pregnancy. The ovisac proper was situated in the middle of the tube, while the upper wall of the tube—*i.e.*, the part next to the anterior abdominal wall—showed immense hypertrophy of its muscular fibres (they were as large bundles of a strong biceps). The opposite side of the tube was thinned out so much that it seemed as though the ovum was ready to break through, out of the tube, into the cul-de-sac of Douglas. The amnion was intact; it contained about an ounce of fluid, and the fetus well differentiated and apparently about five weeks old. The ovary, which was removed together with the tubes, contained a cyst of the size of a small apple, being filled with a chocolate-colored, thin fluid.

Shortly after the preceding case had left the hospital another was brought in, of which the house physician, Dr. M. Goodkind, has furnished me with the following history: Patient *æt.* 40, menstruated at 14; menstruation every four weeks up to five years ago, when the flow became irregular, sometimes occurring twice a month; generally lasts seven days, without pain and of fair quantity. Patient menstruated last three months ago (May 20th). Married seventeen years; three confinements, all full term, normal labors; eldest child 13 years old, youngest 5. Six weeks ago (July 16th), while washing she experienced sudden and excruciating pains in neighborhood of genitals, causing unconsciousness which persisted for an hour. When she emerged from this condition she described sensations of vertigo, tinnitus aurium, pain, dyspnea, and utter prostration, causing such intense distress that she became incapable of any exertion and took to bed. Accompanying these symptoms she had alternating chills and fever, anorexia, nausea, and vomiting. A week after she began to menstruate slightly, and has done so to date. These various symptoms caused a rapid deterioration in health, and on August 27th she entered M. R. Hospital.

Status præsens: Patient of strong build but extremely anæmic; has a haggard and careworn expression. She suffers with intense bearing-down pains. Abdomen presents a symmetrical enlargement extending from the symphysis to one inch below the umbilicus, of fairly hard, elastic consistence. No fetal sounds.

By bimanual exploration we found the cervix pushed up behind the symphysis by a round-shaped tumor resembling a small head descending down upon the floor of the pelvis. It was impossible to properly locate the fundus uteri, its outlines being lost in the tumor, which extended from the posterior cul-de-sac along the region of the left broad ligament to within an inch below the umbilicus. It seemed to fluctuate, and, in fact, to present all the symptoms of a hæmatocele. I inserted an aspirator needle, but did not get any fluid. The following days the patient had a little fever, the temperature ranging in the evening be-

tween 100° and 102°; the pains were controlled by morphia, but the tumor seemed to rather increase, causing retention of the urine, necessitating frequent use of the catheter. I deemed it necessary to do something radical to relieve the patient, and so I decided upon laparotomy. Our junior gynecologist, Dr. Frankenthal, agreed with me in the diagnosis—hæmatocele, probably caused by the bursting of an ectopic ovisac. September 4th was set for the operation.

After opening the abdomen the omentum and bowels appeared tinged with a peculiar yellow-brown color, which revealed at once the bloody nature of the tumor. The tumor lay hidden under the small intestines, which were easily loosened by the finger and pushed back with a sponge, so that the apex of the tumor was brought to view. After sponge-packing all around it, in order to protect the abdominal cavity against an overflow of possibly poisonous liquid, I first tried to aspirate; but, failing to get any fluid, I cut into it with a knife, making an incision wide enough to admit a half hand. It contained black, semi-coagulated blood, which I scooped out with the hand. Thus far I thought I had to deal with a simple hæmatocele, and that the uterus lay pushed over to the left side. While manipulating to get the last coagula out I loosened what I considered to be the womb; it proved to be a hard, solid coagulum, which was hanging attached to a few loose shreds from the left horn of the uterus. The uterus proper I found in the median line and of normal size. After thoroughly cleansing the abdomen and the sac, I stitched the latter to the peritoneum and packed it with iodoform gauze. The patient rallied nicely from the operation. On the second day, however, the temperature went up to 103°, the abdomen became tympanitic, pulse weak, 130. Gases had failed to pass so far, in spite of laxatives, rectal tube, and turpentine enemata. We really thought the patient in great danger of beginning peritonitis, and in order to give her a chance we took her at 9 o'clock in the evening to the operating room, in order to relieve a possible retention of the wound secretions. While she was on the table, and before I had done any mischief to the wound, the first flatus passed *coram publico*. From that time on she began to feel better. She is still in our ward and has no fever; the wound discharges very little, and is becoming smaller from day to day.

In this case tubal pregnancy had occurred, the ovisac burst, first causing hæmato-salpinx, then hæmatoma of the broad ligament, finally tearing and disintegrating the whole tube, the remnants of which were hanging down in shreds from the left cornu uteri. Later on there was renewed hæmorrhage into the pouch of Douglas, causing hæmatocele. The sac, which I stitched to the abdominal incision, was organized blood, not

peritoneum. The original ovisac, represented by the hard coagulum covered with villi, lay inside of the hæmatocele.

I now wish to add a few general remarks:

1. *Diagnosis of Ectopic Pregnancy.*—It must be easy to make a correct diagnosis after the fourth month and before rupture of the sac, because we feel the living fœtus or hear the heart sounds. Before the fourth month there might sometimes be a doubt left, especially if the physician sees the patient perhaps only once, or if he be unable to get an intelligent history. Besides the well-known and generally accepted signs of pregnancy (subjective and objective ones), I would derive the most valuable help, in making a diagnosis, from a close history. There will always be some *irregularity* in the menstrual flow—either cessation or too early recurrence of the periods—while formerly the menstruation has been regular. This irregularity resembles very closely the flow in a case of abortion. Another valuable symptom will be intense, excruciating bearing-down pains, mostly one-sided. These are not labor-like pains, but are more steady. They are no doubt caused by distention of the tube, due to the rapid growth of the tumor. If we add to this the objective symptoms—the enlargement of the uterus, that characteristic doughy touch of the cervix, the presence of a gradually increasing tumor somewhere in the region of the broad ligament—then I think there should be sufficient reason to warrant the diagnosis of ectopic pregnancy. My first patient illustrates this symptomatology most conclusively. She is a woman who has always menstruated regularly to the day. Fourteen days after her last menstruation she begins to experience intense bearing-down pains, starting in the right hypogastric region; then, for the first time in three years, she goes over her time six days; then a free flow sets in for ten days, shreds of decidua pass. With all that there is no fever and no other cause to explain the pain. By digital exploration we find an enlarged uterus giving that characteristic doughy feel of pregnancy, together with a steadily increasing tumor situated near the womb in the region of the broad ligament. There was, however, one classical symptom of pregnancy wanting, namely, the patient herself had not the slightest idea of being a gravida.

Now, how about the diagnosis of rupture of the ovisac? Those cases constitute two different classes, namely: (a) Rupture causes acute internal hæmorrhage. Now, since there is hardly any other trouble but ectopic pregnancy causing internal hæmorrhage, we may diagnose it at once if a patient shows the well-known symptoms of acute internal hæmorrhage. (b) Rupture causes peritonitis, sepsis. If a patient had not been under observation before the accident, it might often be impossible to differentiate a ruptured ovisac

from a ruptured pyo-salpinx, ovarian cyst, or the like. About hæmatocele see further on.

2. *Anatomy.*—You know that Lawson Tait claims that the different varieties of ectopic pregnancy described in the text books are mere theoretical classifications, and that all cases are originally tubal, becoming ovarian, interstitial, or abdominal only after rupture of the tube and migration of the ovum to a new resting place. The simplicity of this theory recommends it. All the recently published cases were tubal pregnancies, as were the two cases related this evening. The first case also clearly demonstrates by the thinning out of the tube the possibility of an ovum slipping out of such an opening.

3. *Frequency.*—Late publications go to show that ectopic pregnancy occurs much more frequently than we have generally thought, a great number of cases of so called *hæmatocele retro-uterina* and hæmatoma of the broad ligament being nothing but cases of ruptured ectopic pregnancy. Martin, Olshausen (of Berlin) have described many such cases. Sure enough, they never found the fœtus, but were able in every instance to demonstrate the true nature of the disorder by the presence of decidua cells. Orthmann (who published Martin's cases) says that if in a hæmatocele we find an organized, well defined coagulum, we may feel sure that this coagulum was originally an ovisac. Upon its microscopical examination we will find villi or decidua cells. Our second case wonderfully corroborates this statement. *In situ* yet of the torn and burst left tube, and surrounded by the semi-coagulated blood accumulated in the hæmatocele sac, we found a coagulum of the size of an apple, being covered with villi and enclosing the shrunken remnants of an otherwise well-differentiated fœtus.

4. *Predisposition to Ectopic Pregnancy.*—It is worth while to repeat here that the first patient had been ailing for years (after her first confinement) with pains in the right ovarian region, and that an ovarian cyst of the size of a small apple, containing thin, chocolate-colored fluid, was removed together with the ovisac, right ovary and tube.

5. *Treatment.*—There is hardly any possible difference of opinion about what to do if a physician is called to treat a patient showing the symptoms of a bursted ectopic ovisac. We have, of course, to perform laparotomy at once—in the one case to stop an otherwise fatal hæmorrhage; in the other case to remove decomposed matter which, if left in the abdominal cavity, will undoubtedly set up fatal peritonitis. (See also the remarks about hæmatocele.) What shall we do with a case where the sac is still intact? Let us first ask what will become of the patient if left to her fate. The sac might burst at any time, thus giving the patient a chance to die either from hæmorrhage or from sepsis; or if she should

escape both, and the fœtus undergo mummification (lithopedion), she might, after years of suffering, see the fœtus make its way out of the abdomen by perforating bladder, vagina, and rectum. Such being the case, I think the best way to deal with any case of extra-uterine pregnancy is to extirpate the ovaries as soon as the diagnosis is made. For, even if we succeed in killing the fœtus by electricity, aspiration, or injection of morphine, we are by no means sure that no sepsis or hæmorrhage will follow, or that, years after, a lithopedion will not cause trouble necessitating an operation.

In an early month the operation will amount to nothing more but a laparotomy for a small ovarian tumor or salpingitis.

Thomas has warmly advocated the use of electricity, not only with a view to killing the fœtus and waiting for its resorption, but also with a view to arresting placental circulation, thereby minimizing the danger from hæmorrhage in a subsequent laparotomy. This would seem a very good plan if the action of electricity were sure; but since it is not, it seems more rational to operate at once and not allow the placental circulation to increase by a delay due to futile efforts to arrest it. In my first case Dr. Jaggard and I discussed the propriety of a trial with electricity, but we decided to gain time over an increase of the placental circulation by immediate operation, and we really had no difficulty in controlling hæmorrhage.

However, as gestation progresses the danger from hæmorrhage increases. There being no contractile tissue to stop the gush of blood issuing from the placental insertion, it is of the greatest importance not to disturb the placenta. In such a more advanced stage of ectopic gestation where rupture occurs less frequently, I would try Thomas' plan with electricity as the first preparatory step to a later laparotomy. In case pregnancy, for some reason or another, has been allowed to go on to near full term, the child has also some claim for consideration. Here, in order to save a viable child, we might put off laparotomy until labor begins, being ready, however, to operate at any time if symptoms of rupture of the sac should demand it. The safest way to treat with the placenta in such a case seems to be not to attempt to detach it, but stitch the sac to the abdominal wound, pack with iodoform gauze, and wait for spontaneous loosening of the after-birth.

In case of hæmatocœle the proper treatment would be to first wait for natural resorption of the bloody effusion; second, aspiration; third, opening through the pouch of Douglas, if the tumor does not reach high enough to allow it to be sewed to the abdominal walls; fourth, laparotomy, if the tumor touches the anterior wall of the abdomen. Laparotomy seems the most rational procedure, because it allows us to properly locate

the extent and surrounding parts of the hæmatocœle. Whenever incision is resorted to, the opening should be made wide enough to get all the coagula out. In the last case I doubt whether it would have been possible to get the large coagulum out through the vaginal opening.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

A NEW DISINFECTANT.—The list of disinfectants that has grown so rapidly of late, has received a further addition under the name disinfectol (*disinfectol*). According to LOWENSTEIN (*Revue Hebdomadaire de Thérapeutique*) it consists of a combination of iodine phenol and different hydrocarbons. It is a liquid of considerable consistence which in odor and properties approaches closely to creoline, of alkaline reaction and miscible with water in all proportions, forming a clear or grey emulsion according to the proportions employed. M. Beslin in testing the antiseptic value upon fæces found that in the proportion of .5 it disinfected an equal volume of fecal matter in eighteen hours. In the strength of 10 per cent. an equal volume of fæces were completely sterile at the end of fifteen minutes. The bacillus typhoidal was destroyed by a two per cent. solution. The five per cent. solution was equal in disinfecting power to one of 12.5 of creoline, hydro-chloric acid 33, carbolic acid 5, sublimate 2.

RAPID EFFECTS OF KOCH'S REMEDY IN LARYNGEAL PHTHISIS.—PROF. OPPENHEIMER, of Heidelberg, reports the following case (*Deutsche Med. Wochenschr.*, December 4th, 1890):—The patient was a woman, aged 28, who had been ill for two years. She had infiltration of the right upper lobe, dulness at the left apex, bronchial breathing, moist râles, and bacilli in the sputum. Since September of the present year she had continual fever, with evening exacerbations and night sweats. She complained of irritation in the throat, which brought on paroxysms of coughing from six to eight times a day, and made her vomit most of her food. This, and the hoarseness of her voice, made Professor Oppenheimer suspect that the larynx was implicated in the disease, but laryngoscopic examination was impossible, owing to the irritability of the throat, which even the free use of cocaine could not subdue. She was very weak when Koch's fluid (1 milligram) was injected for the first time on November 22nd. Reaction was slight; the coughing and vomiting continued during the day as before. On November 23d she was again injected (1 milligram). Nine hours afterwards the temperature rose from 37.6° to 39° C. During the following night there

was much sickness, with headache, and coughing; expectoration was diminished. On the 24th 1 milligram was again injected. In about six hours the temperature again rose to 39° C. and the patient complained of giddiness, shortness of breath, with a feeling of contraction in the throat; there was no difficulty in swallowing, the cough was less, but the voice was somewhat hoarser than before. With great difficulty a laryngoscopic examination was made, and it was seen that on the fore part of the right vocal cord there was a bluish red excrescence of the size of a millet seed, the rest of the cord being greyish red in color, but otherwise normal. The ventricular bands and arytenoid cartilages were normal. On the following day the excrescence had disappeared, and only redness and slight swelling of the vocal cord remained. From that day the paroxysms of coughing and vomiting entirely ceased, and up to the date of the report (December 1st) never recurred. The only thing the patient complains of is slight pain in the region of the larynx, which comes on from eight to ten hours after each injection, and lasts from three to four hours. No improvement has, however, taken place up to the present in the lung symptoms.—*Brit. Med. Jour.*

PYOKTANIN.—PROF. STILLING has given, in three recent numbers of *Merk's Bulletin*, a valuable report upon pyoktanin. He summarizes its qualities in the following terms: 1. Pyoktanin is an antiseptic surpassing all remedies of this kind heretofore known in regard to both development-arresting and germ-destroying effect. The two strongest antiseptics employed in medical practice are sublimate and iodoform. The bacteriological researches have shown blue pyoktanin to be about three times as strongly antiseptic towards anthrax bacilli as sublimate is, and to be quite as efficacious as sublimate towards the staphylococcus aureus; while the inefficacy of iodoform towards pus cocci is a generally acknowledged fact. 2. Pyoktanin is an absolutely non-toxic substance. Herein it possesses a most desirable advantage over all the other antiseptic remedies, whose toxic effects are known to hold, generally, a pretty direct ratio to their anti-bacterial action. 3. In consequence of this non-toxicity of pyoktanin it is a matter of indifference in very many cases whether somewhat weaker or stronger solutions, or even the pure drug, be employed. (This principle is good pre-eminently in the treatment of wounds and ulcers; but of course it cannot apply to ophthalmology). 4. Pyoktanin does not coagulate albumen—a negative quality of high value physiologically, which pertains to not a single one of the antiseptics heretofore known. 5. Pyoktanin possesses an extremely high degree of diffusibility; it permeates the interior of the eye like atropine, and acts similarly in other tissues. As far as surgery is concerned, Professor

Stilling believes that his researches have demonstrated that suppuration can be cut short by bringing pyoktanin into intimate contact with the suppurating tissues. After giving details of his experience of this substance in many branches of ophthalmological work, he concludes by remarking that even here, though somewhat less so than for general medicine and surgery, the entire matter is still *in statu nascendi*.—*Lancet*.

Medicine.

ARSENIC AND PEMPHIGUS.—MR. JONATHAN HUTCHINSON'S address in the Dermatological Section of the British Medical Association referred to the opportunities offered in connection with skin diseases for the study of general therapeutics and for observations on the action of drugs. As reported in the *Lancet* he offered a striking illustration of this proposition in the behavior of arsenic, which has long stood in the forefront among those remedial agents regarding which have been collected many important and even astonishing facts. And he adds: "There is no more wonder-producing fact in the whole range of therapeutics than the ease and rapidity with which arsenic contracts and cures common pemphigus. There may occasionally be exceptions, but, as a rule, not another bulla appears after that remedy has been commenced. We have, indeed, ceased to see any cases of chronic pemphigus ever since this fact has been made known." There, however, he complains, the knowledge ends, for no one has yet been able to discover how the drug acts, and we are still ignorant also of the real nature of the malady that so generally succumbs before that drug. It does not always cure the malady but it always changes it for the better. He who would completely unravel the mystery of how the bulbous eruption comes to be healed, and the scaly one changed, how the skin may be made to clear up in one case or to become muddy and brown in another, how peripheral neuritis may be produced to end finally, unless prevented, in some severe form of paralysis and death, and how in rare instances the nutrition of the skin may be so influenced that keratosis and even cancer may be the result, will certainly find that he has his work cut out for many years. Only the foundation of the subject has as yet been laid.

TREATMENT OF DIABETIC COMA.—SCHMITZ (*Berliner klin. Wochenschr.*) recognizes two distinct forms of diabetic coma. In one there is heart failure and in the other a toxæmia. In the first class of cases we have a diabetic who is often fat but whose muscles are soft and flabby, the gait is insecure, and breathlessness is produced by slight exertion. In these cases the heart, like other muscular structures, is poisoned by the excess of sugar in the blood. After a time distinct

heart failure appears, manifested by a quick, feeble pulse, obscure or absent first sound, with increased area of dulness at the base. The heart's action finally becomes weaker, somnolence comes on and the heart may strike work suddenly or gradually. The treatment of these cases should be an avoidance of all undue over-stimulation and over-taxing the heart. A nutritious and easily digested dietary; of course, the general diabetic condition must not be overlooked. In acute cases, where cardiac failure is imminent, the patient should be kept in a recumbent position and heart tonics administered. One of the best is black coffee together with musk and camphor hypodermically if there is nausea. The greatest danger lies in allowing the patient to get up too soon. He should be kept on his back until the first sound of the heart becomes clear and distinct.

The second form of diabetic coma he regards as an acute auto-infection named, but not correctly, acetemæmia. The symptoms principally relate to the digestive tube, lack of appetite, eructations of foul gases, constipation usually, but sometimes diarrhœa, together with heaviness and drowsiness. This state may last for some days, but eventually the patient becomes more and more stupid. The temperature rises and the pulse increases in frequency, colic pains are present, frequently accompanied by vomiting of dark or greenish colored fluid. The pupils, as a rule, are contracted and react but feebly to light. Towards the end violent clonic convulsions appear, deep coma supervenes to be followed by death.

The colic, high temperature and *clear heart sounds* serve to distinguish this last from the first variety. The writer thinks that this poison is absorbed from the intestinal canal, and recommends that in all of these cases free purging with castor oil should be resorted to. It makes no difference whether diarrhœa is present or not, if the oil is given a number of dark foul stools result, which are quickly followed by an amelioration in all of the symptoms. The author gives an account of eight cases of equal severity, in four of which oil was given and in four not;—the former all recovered, while the latter all died.

Surgery.

BRAIN SURGERY.—WALKER (*Med. and Surg. Reporter*, Vol. Lxiii, No. 8, p. 213) reports eleven cases of brain surgery.

There were two cases of compound fracture of the skull in which fragments of bone were driven through the dura mater into the brain. Trephining was performed and the fragments of bone were removed, with recovery in both cases. There were three cases of fracture of the base of the skull accompanied by intracranial hæmorrhage. The indications for trephining were the pressure symp-

oms. Two of these cases recovered. There was one case of intracranial hæmorrhage without fracture. Trephining was performed six days after the injury, and 5 ozs. of coagulated blood were removed from between the skull and dura mater. The patient recovered.

There were two cases which received no benefit from operation. One was a case of supposed ancient intracranial hæmorrhage and the other a case of epilepsy.

The lateral ventricles were tapped for effusion in one case. The method of operating was that proposed by Keen. The trephine was placed $1\frac{1}{4}$ inch behind the meatus and $1\frac{1}{2}$ inches above Reid's base line; the puncture being made toward a point $2\frac{1}{2}$ inches directly above the opposite meatus. A considerable quantity of serous fluid was removed in this way; the patient, however, died in seven hours. The reporter is of the opinion that death was due to compression from hæmorrhage, which was caused by the operation. No autopsy was made. There was one successful case of trephining for epilepsy, which followed traumatism four years previous to operation.

Finally, there was a fatal case of operation for brain tumor. The tumor was not discovered at the operation. The autopsy showed it to be a cyst which had its origin at the apex of the petrous portion of the temporal bone.—*Amer. Jour. Med. Sciences.*

Obstetrics and Diseases of Women.

KINKEAD ON RUPTURED PERINEUM.—The author records three cases of ruptured perineum which occurred in his practice, in spite of every caution he took to prevent the mishap; and he strongly urges that these cases should be attended to at once, and not allowed to heal by chance. The author states that the neglect to repair arises from two causes: 1. The notion that if the laceration is not extensive, union may take place by means of rest, position, and cleanliness; and if extensive, so that the rectum is involved, it is useless to suture the wound, as union is not likely to take place. 2. The idea that laceration of the perineum is an indication of incompetence or neglect, and likely to prejudice the patient against the practitioner. Dr. Kinkead describes three cases, in which he shows that the rupture was extensive in each case, in spite of great caution, and perfect union occurred after suturing the wound with deep sutures, though in one case the rent extended into the anus, and for an inch up the rectum. Whether it be that higher education and social progress produce larger fetal heads, or render the perineum more friable, the author is unable to say, but he states that he finds it more impossible to preserve the perineum intact than he did when he began practice.—*London Medical Record.*

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NEW SOCIAL REMEDIES.

The physical and medical side of pauperism, criminality, and associate evils have received a great uplift in GEN. BOOTH'S work, "On Darkest England and the Way Out."

The purpose of this work is to bring out the fact, that one-tenth of the London population are paupers, criminals, lunatics and outcasts generally and are called the "submerged tenth"; also that all remedies and means to reach and correct this evil are failures unless especially addressed to the physical side. Another fact seldom realized, yet terribly true, is that pauperism and its associate disorders are indigenous, and when once they take root in a town or city, reproduce themselves through heredity, surroundings and conditions of life, with a persistence that defies all missions, churches and free charities. The so-called charities in most cases increase the very evils they are intended to relieve. This is illustrated in many of the dispensaries so generously supported by physicians, that are literally schools of pauperism.

GEN. BOOTH'S "way out," or remedy, is to draft out this terrible army of defectives, in work-houses established in the worst centers. These places are to furnish good rooms, food, clothing and mental change, in return for services of some kind. After residence and training here they are to be transferred to form colonies, with larger opportunities for more comfort and better living and a chance to make a surplus beyond food and clothing. From a longer residence here they are

to be sent to foreign colonies, and helped to make home centers for themselves. These foreign colonies to be coöperative and care for those who are unable to be independent; thus these parasites of society are to be lifted out, trained and taught to work and give some return for food, and all the comforts of a better home. The first great lesson is to be independent, and to earn under the direction of others, the joys of better conditions of life and living. In this way a large majority of the defective paupers and criminals who are prevented from rising by surroundings and conditions of life, are lifted out of their breeding places, and placed in new mental and physical environments, and trained to appreciate this change, and be restrained from falling back again.

By this appeal to the physical side, the way to the higher controlling forces is reached, and the man who would have become a burden becomes a producer. The common methods are to break up pauper centers and scatter the inmates, who with unconscious certainty proceed to form other and more dangerous centers. This plan is to draw out such defects and give them a chance to rise to better conditions of life. GEN. BOOTH calls for a million dollars to begin this scheme, in London, a third of which is already subscribed. This indicates that the public mind responds quickly to methods that are rational and along the line of scientific research.

The new criminalology and sociology of evolution sustains the practical character of this plan. This work is exciting most intense interest among all classes of laymen, but beyond this it has a medical aspect which has not been noticed yet. The London paupers, criminals and outcasts are growing up in all our large towns and cities, and are identically the same classes, only varying in degree. When these classes are studied scientifically they are found to follow certain lines of causation, and conditions of heredity and environment, that can be traced and predicted with absolute certainty. They are the products of heredity and physiological development and non-development, that in certain conditions and surroundings of life will merge into the criminal pauper and defectives, and become the dangerous classes.

So far all the studies of these cases have been by theologians, lawyers and philanthropists, entirely from a theoretical standpoint, and of course

the remedies have been strangely empiric and largely failures. No clinical study of these cases in their haunts, or in reformatories or prisons has been made. Only a few fragmentary articles have appeared. One or two reform prisons have demonstrated the great changes that will follow physical training and culture, and the possibility of curing criminals and seuding them back to society useful law abiding citizens. These irregular studies show that all these so-called dangerous classes are bred and cultivated from germs and germ soils, that they grow up and develop in conditions that can be recognized and prevented. The educated physician is the most competent of all persons to study and point out the true remedies. GEN. BOOTH's plan recognizes this fact in the materialistic character of the means for relief.

This entire subject of the pauper and dangerous classes is along the line of sanitary science and preventive medicine. Here the physician rises above the lower level of drug dealing, and becomes a student and teacher of the laws and forces which control the evolution or dissolution of individual life. What GEN. BOOTH proposes to do in London may not be carried out practically, but it suggests possibilities that can be put in operation in every city in the country. It suggests new fields of medical research and medical activity, that will close free dispensaries and dangerous charities, and change the police courts and jails from training schools of crime to homes of growth and preparation for better life and living.

Medical men in every community must study these dangerous classes, and advise and direct the remedies for restoration and prevention. A practical knowledge in this direction will be liberally rewarded by the public, and raise the physician to the realm of leadership in a new field of work for humanity. Each new advance of scientific research reveals the possibility of escape from epidemics and widespread fatal diseases, and every new study of these dangerous classes reveals certainty of finding means of prevention and cure. Pauperism including criminality, and all the associate defects, are medical problems to be studied from the physical side, and treated by physical remedies, not drugs, but by the application of laws and forces that will help the victim back to health again.

Everywhere there are intimations of a great

revolution in our knowledge and treatment of these cases. The losses and burdens they entail on every community bring the study of remedies and means of prevention into great prominence, and calls for the best talent of the profession in every section.

THE COMPOSITION OF KOCH'S LYMPH.

PROFESSOR KOCH has made a third report of his work under date of January 15. His reasons there given for withholding from the public to the present time the exact composition of the fluid used in the treatment of tuberculosis, should be satisfactory to the medical profession. The modest manner in which he now refers to his previous labors, and the methods employed by which he has reached his present conclusions, commands approval, and the unreserved manner in which he now gives to the public the results of his labors must surely disarm those who were disposed to criticise the withholding of his discovery from an exacting and impatient multitude.

"The remedy," says PROFESSOR KOCH, "which is used in the new treatment, consists of a glycerine extract derived from the pure cultivation of tubercle bacilli."

This extract contains not only the effective substance derived from the bacilli, but such other substances, consisting of salts, coloring material and extractive matters, as would be soluble in a fifty per cent. solution of glycerine. Their elimination is of no practical importance, since they exert no essential influence upon the human organism. Combined with other extractive material the effective matter is precipitated by alcohol, in which it is insoluble, and can be isolated from other substances in a comparatively pure and concentrated form and with increased potency.

Regarding the composition of the effective substance, as he terms it, PROFESSOR KOCH says that for the present only surmises can be entertained. He believes it to be derivative from albuminous bodies and having close affinity to them. That it does not belong to the group of toxalbumens, he argues from the fact of its tolerance of high temperature and of its behavior in the dialyser. So far as can be estimated, the percentage of the active principle in this solution is exceedingly small, being rated at a fraction of one per cent. It is evident that we here have to do with a remedy which, considering the effects which it

produces, is far more potent than any drug hitherto employed.

Various views are entertained as to the manner in which the substance produces its effects.

It is known that tubercular bacilli, when growing in living tissues, produce substances which affect unfavorably and in concentrate form produce necrosis of living tissue. In this necrotic tissue the bacillus fails to obtain its needed nourishment, ceases its development, and sometimes dies.

Thus the very environment of the bacillus is inimical to its development and multiplication. If now a substance be introduced that can develop the necrotic environment still further, and limit the possibilities of its growth, by so much the more will its limitation and destruction be assured.

It may be as yet impossible to explain the manner in which this remedy exerts its specific influence upon tuberculous tissue. Nor can we yet understand the remarkable rapidity with which its effects are produced. Nor does time yet suffice to determine as to the permanency of alleged favorable results. Instances are cited where the tubercular bacilli disappeared from the sputa of patients while under treatment, and at the end of three months had not reappeared, the patients in the meantime improving in health, the physical signs of phthisis having disappeared.

EDITORIAL NOTES.

DIPHThERIA AT HALIFAX, N. S.—The *Maritime Medical News* for January comments editorially on the high mortality of diphtheria, during the last fifteen months, at Halifax. The exact amount of the death-roll cannot be stated, but the editorial writer estimates that as many as 250 deaths were due to the cause named, and the end is not yet. These deaths were mostly among children, causing an abnormally high infant mortality. And yet Halifax has very much in its favor as regards its geological and geodetic conditions, washed by the sea on every side, and furnished with a water-supply that is above suspicion. But the city is uncleanly within, as was shown by an inspection made last summer, under pressure of public opinion and against the opposition or inertia of a cumbersome health machine. This inspection revealed premises innumerable reeking with domestic filth, saturated and overflowing cesspits,

uncleaned streets, uncollected garbage and an inadequate sewer system. The economic loss to the city has already been great, as the sensitive tide of summer travel has already begun to be diverted by the impression made by the bad bills of health shown by the city. The Board of Health is lacking in its proportion of medical men of alertness and modern training.

THE OVERWORKED PHYSICIAN'S LUNCHEON.—Dr. Allan McLean Hamilton contributes to the *Dietetic Gazette* some dietetic suggestions in nervous and mental diseases, one of which will interest all those busy practitioners who give themselves no time for a midday repast. His advice would be to lay in a goodly supply of fresh almonds, and to have some of them constantly within reach and to eat freely of them during the spare moments. He writes as follows:

Acting upon a hint given by my friend, Dr. Lauder Brunton, I have directed some of my patients to eat freely of fresh almonds, which are rich in oil and exceedingly nutritious, containing as they do 54 per cent. of fixed oil. According to Pavy they contain 2.677 of nitrogen and 40 per cent. of carbon. It is a custom of Dr. Brunton and several other London physicians, when hurried and tired after their morning consulting hours, to make a luncheon simply of this kind. In cases of diabetes, when digestion is not too weak, it will be found that biscuits of almond flour are exceedingly nutritious and palatable and may take the place of gluten bread.

*** POETRY ABOUT A MILWAUKEE SURGEON.**—A little versification now and then is relished by the sternest of medical men, especially if it be about Professor Senn. Dr. G. Dewey, a Mis-sourian poet, has composed the following lines regarding specialism in medical practice:

"The body has been parcelled out.
For doctors' benefit, no doubt,
Divided up so very nice
That every one can get a slice.
To one they gave the fingers, one the toes,
Another gets the eyes and nose;
A third, more greedy for his part,
Has gobbled up the lungs and heart.
For his untiring, ceaseless pen,
They gave the pancreas to Senn."

MEDICAL PRACTICE IN MINNESOTA.—The results of seven years operation of the Medical Practice Acts in that State have been to reduce the proportion of physicians to 1 in 1,250 persons; whereas it formerly was 1 in 650. Some hundreds of pretenders have been forced to quit the State, and have gone into Michigan and other unpro-

tected States. The present examination act has been in force three years, and in that time only 205 candidates have presented themselves for examination, of these 77, or 36 per cent., were rejected.

EARTH-WORMS AND AFRICAN FEVERS.—The *Kew Bulletin* in an article on the work of the earth-worm in the coast-regions of Western Africa, says that there is an unmistakable comparative freedom from dangerous malarial fevers in the country called Yoruba land, and that many there believe that this freedom is due, in part at least, to the great activity of earth-worms in ventilating the soil and in bringing to the surface the earth in which the malarial germs live and breed. The quantity of soil thus brought to the surface yearly is enormous; but whether or not the diligence of the earth-worms of Yoruba is greater than in adjoining territory, that is smitten with the malarial fevers, is not stated. We are left to infer that it is.

KOCH'S NEW LABORATORY.—The government at Berlin has ordered the construction of a new institute for Dr. Koch. It is to include a sanitarium as well as scientific institution; in the former all required cases of infectious diseases will be cared for and treated under the direction of Koch, the human test-cases in conformation of his researches; in the latter the usual laboratory investigations in bacteriology and other preventive methods, both in old and new directions. Professor Koch will be the director of the institute, with two heads of departments under him and twenty or more practical assistants. An adjunct sanitarium, for the benefit of the poor of the city, has been promised by a private citizen, at a cost of \$200,000. The sanitarium, to be constructed by the government, will have a capacity of 150 beds. Dr. Brieger has been named as the probable first director of this department.

GENEROUS GIFT TO A PENSION FUND FOR NURSES.—The family of the late Junius S. Morgan, formerly of Hartford, Conn., has presented the National Pension Fund for Nurses, England, with over \$38,000 to supplement a collection made by the nurses among themselves, amounting to about \$12,000, this being their spontaneous tribute to the memory of their departed benefactor. This fund will bear Mr. Morgan's name, as a part of the benevolent endowment for the bene-

fit of nurses, which already amounts to \$200,000. Mr. Morgan, during his lifetime, had taken a warm personal interest in the movement and had subscribed liberally, not less than \$50,000, for its encouragement.

PROPOSED MEDICAL LEGISLATION IN MICHIGAN.—At the last annual meeting of the Michigan State Medical Society, a committee of nine of its representative men was appointed to formulate appropriate measures and to influence the profession in the State to secure from the incoming Legislature—"the enactment of just and wise measures, calculated to elevate the standard of medicine in Michigan, and to protect the people from the cruel and dishonorable practices of ignorant and unscrupulous pretenders."

At the meeting of that committee recently held, the conclusions reached were as follows:

1. That the objects to be sought in a medical law were three-fold: preliminary training, professional training, and the enforcement of these requirements.

2. The securing of these objects by a legal organization of the entire medical profession of the State under legislative authority—by means of a legally constituted council by whom those beginning the study of medicine shall be examined with reference to preliminary education, and by whom alone a license to practice medicine in the State shall be issued, and that no other diploma shall entitle the holder to practice in the State.

We confidently believe that if the men who have this matter in charge shall secure the legislation they desire that Michigan will stand in the foremost rank of States as regards the quality of its medical service.

THE KOCH TREATMENT IN THE POST-GRADUATE MEDICAL SCHOOL, CHICAGO.—During the past week the Koch lymph treatment was successfully instituted at the Post-Graduate Medical School of Chicago. This institute, through Dr. Robert H. Babcock, has also fitted a room with all the necessary appliances for the treatment advised by Dr. Shurly of Detroit. Several patients are under treatment by both methods and careful notes are taken of the progress in each instance with the idea of comparing the relative value of the two methods.

TOPICS OF THE WEEK.

THE REVIEWER IN 1831.

The following are a few samples of what reviewers had to say about books in 1831:

"So many plates, etchings, lithographs, and copper-plates bestrew our table that we scarcely know whither to turn to avoid them. Every day sees the birth of some production. If the public buy them all then happy are the authors." This might apply to 1891, as well as the following: "Within the last few years compilations, systems, manuals and guides of all descriptions for the use of students, young and old, have multiplied beyond enumeration. If mind is on the march it is encumbered, like our English armies, with a monstrous quantity of baggage and camp followers."

What would the reviewer have said if he had been spared to the *fin de siècle*. The quotations we have given only lament the quantity of books; the following extract might have been penned to-day: "To those who have made themselves intimate with the medical literature of the last thirty years, and have traced with care the progress of its advancement in some departments, and the cause of its decline in others, nothing can have appeared more amazing than the unphilosophical, unconnected trash which has been teeming in volumes of every size from the medical press of this country. A few observations most hurriedly made; a few new fancies most rudely arranged; or, if you will, a few facts carefully collected are laid down as the framework of a momentous publication, in which general systems are dissected and condemned, preceding authorities are swept into annihilation by broad and dogmatic assertions, and a new creed is proposed for adoption which contests not only its superiority over all that has gone before, but its perfect adaptation for all future ages, nations and constitutions." The extracts are from the *Medico-Chirurgical Review*, 1832, p. 30, and evidently the state of the profession fifty years ago, as regards the production of books, was as bad as it is now.—*Provincial Med. Journal*.

DEAFNESS FOR HIGH NOTES.

Mr. Edwin Cowles, editor of the *Cleveland Leader*, who died last March, had a peculiar form of deafness. He never heard the sound of a bird's note, and until he grew to manhood he always thought the music of the bird was a poetical fiction. "You may fill the room with canary birds," he once said, "and they may all sing at once, and I would never hear a note, but I would hear the fluttering of their wings. I never heard the hissing sound in the human voice; consequently, not knowing of the existence of that sound, I grew up to manhood without ever making it in my speech. A portion of the consonants I never hear, yet I can hear all the vowels. About a quarter of the sounds in the human voice I never hear, and I have to watch the motion of the lips and be governed by the sense of the remarks in order to understand what is said to me. I have walked by the

side of a policeman going home at night and seen him blow his whistle and I never could hear it, although it could be heard by others half a mile away. I never heard the upper notes of the piano, violin, or other musical instruments, although I would hear all the lower notes."—*Cleveland Med. Gaz.*

THE OWNERSHIP OF THE PRESCRIPTION.

This question has been settled by law in New York, Massachusetts, and a few other States. They all give the prescription to the druggist. Some time ago a judge of a court in Berlin, Germany, gave a similar decision. The text of the decision from the judge of the supreme court of one of our States is as follows: "The question before the court seems to be very simple, indeed. A patient applies to a physician and receives from him certain advice, for which he tenders a fee. The physician hands a piece of paper to the patient, purporting to be a written order for certain goods called drugs, which order is filled by a merchant or apothecary. The payment of the fee and the delivery of the goods or drugs, terminates the verbal contract, and the druggist keeps the prescription as an evidence that the contract has been fulfilled, as far as he is concerned. The druggist can, if he so please, on his own responsibility, renew the drugs, for he is but a merchant, and has a perfect right to sell drugs to any one and in any shape. He need not keep the prescription, nor is he bound to give a copy, but should error occur, he has no protection in case of suit."—*The Pharmaceutical Era*.

THE TEN COMMANDMENTS OF ABDOMINAL SURGERY.

1. The arrest of hæmorrhage. 2. The avoidance of mechanical irritation. 3. The guarding against infection. 4. The proper apposition of the edges of the wound. 5. The provision of necessary drainage. 6. To apply gentle pressure to prevent exudation. 7. To give perfect physiological rest. 8. To secure the best possible position of the parts to promote comfort and healing. 9. To provide for hygienic surroundings. 10. To attend to the patient's general health.—*Dr. Griffiths*.

A NEW SOCIAL DANGER.

Opponents of dancing have had a somewhat novel argument suggested to them. Some person whom we cannot but regard as over-cautious has discovered that even the drawing-room carpet is the home of dangerous microbes, and must not be disturbed, lest the infective swarm should arise and poison the atmosphere. With every allowance for the unknown components of dust, the objection is, in our opinion, certainly as whimsical as it is probably original. Such regular cleansing as a carpet undergoes ought to free it from any seriously morbid influence, the more so that a dancing room is less than any other exposed to such mischievous agency. Far more real is the disqualification from which this otherwise healthy form of amusement has always suffered in the opinion of medical men in consequence of its customary methods. The excessively late hours, the indigestible suppers, the needless glass of wine, the close

heated air, and the frequent after chill, though by no means essential to dancing, have done far more to injure its repute among reasonable people than any fancied bacillus or morbid spore is likely to do.—*Lancet*.

THE ADVANCE IN LIFE-VALUES.

Dr. B. W. Richardson, in his abridgment of "The Health of Nations," by the late Sir Edwin Chadwick, under the heading "Progressive Health," compares the mortality in the Elizabethan and Victorian eras:

According to John Graunt's reports, from the parish registers, the condition of the whole city of London in the time of Queen Elizabeth was very much that of a "slum." The death-rate was in fact that of a slum: it was more than 40 per 1,000; but now, under some advance toward unity and centralization, it is about 20 per 1,000, still including upward of one-third of preventable deaths. The death-rate then largely exceeded the birth-rate, while now the reverse is the case. The death-rate of the children under 5 years was then one-third, or 33 per 100. It is now 27 per 100, and grievously too heavy. The deaths from old age, or the age then called old, of 70, were 7 per cent.; they are now sadly too low, but even in the city proper they are 18 per cent. As to personal security, John Graunt boasted that not more than one in 2,000 was then murdered annually, which he ascribes to good local government. At the same rate now murders in the whole of the metropolis should amount to no less than 2,500 annually, whereas they actually amount to an average of no more than 12 for the whole 5,000,000—a population which approaches to that of the whole kingdom of England and Wales in the time of Elizabeth.

LISTER'S METHOD DISCARDED BY LISTER!

"Who could have foreseen the short existence of the world-renowned system of Lister, which has been for years the ideal of modern surgeons? Who could have dreamed that the idol would be one day broken by him who had placed it on a pedestal of bronze and polished brass?" Such are the questions with which the *Journal d'Hygiène* begins the announcement of the present status of Listerism, and goes on to remark: "It is, however, an historical fact. The dictum of Lister and his antiseptic doctrine have ceased to exist. In his remarkable communication to the Congress at Berlin, on the actual condition of the antiseptic treatment of wounds, the eminent English surgeon has given the following judgment:

"As regards the spray, I feel ashamed that I should have ever recommended it for the purpose of destroying the microbes of the air. If we watch the formation of the spray, and observe how its narrow initial cone expands as it advances, with fresh portions of air continually drawn into its vortex, we see that many of the microbes in it, having only just come under its influence, cannot possibly have been deprived of their vitality. Yet there was a time when I assumed that such was the case, and trusting the spray implicitly, as an atmosphere free from living organisms, omitted various precautions which I had before supposed to be essential."

Lawson Tait, of Birmingham, Bantock, of London,

and Bergmann, of Berlin, in reviewing their vast experience, are not afraid to affirm that antiseptic treatment must now yield the place to the aseptic method!

Water boiled or sterilized, a brush and soap are the simple means which have enabled these eminent surgeons to perform a series of one hundred ovariectomies without a single death.—*Cincinnati Med. News*.

THE VALUE OF TIME.

A correspondent, writing from a large commercial city, informs us that he remembers seeing many years ago the following in some mercantile offices: "Call upon a business man at business time only, and on business. Transact your business and go about your business, in order to give him time to finish his business." Our correspondent feelingly asks whether a notice similar to the above, with the necessary modifications, might not be hung up in the consulting-room and surgery of every busy consultant or general practitioner. Much has been said as to the rapidity with which the out-patients of hospitals are disposed of. But this rapidity is perfectly compatible with correctness of diagnosis, prognosis, and prescribing by an experienced practitioner, and there is something to be said on the other side—the time wasted by patients in prolix descriptions and tedious repetitions. The quaint story of the lady who consulted Abernethy and, knowing his impatience of such verbosity, held out her wounded finger and answered in monosyllables, is well known, and the example might be followed with great advantage. The lady in question was rewarded by Abernethy's impromptu praise, that she was the most rational woman he had ever met in his life. Those patients who are most considerate for their doctor's time are certainly the most welcome.—*Lancet*.

THE TIME OF DAY FOR OPERATIONS.

There is considerable difference of opinion amongst surgeons, as to whether it is best to operate early in the morning or in the afternoon. Many prefer the morning. They say that the patient is saved the suspense of being kept waiting till the afternoon, and the surgeon has the better chance of a good supply of sunlight or of its equivalent in this country. Both these reasons have considerable force. Other surgeons maintain that early operating implies a sleepless previous night. The shades of evening, a greater promotor of sleep than blinds and screens, come on sooner when the operation is performed in the afternoon. This physical fact also implies greater chances of rest in another respect, for there is less fear of subsequent disturbance from noises inside or outside the house when the surgeon operates late. Long operations may seriously tax the surgeon's strength and nerve, and in this respect again the afternoon is better for operating than the morning. In private practice and wherever freedom from noise and plenty of warmth can be ensured, the morning is probably the best time, especially in summer. As far as light—a most important factor—is concerned, the time of day makes little difference at this time of the year in London, though the danger of a sudden darkening of the atmosphere is, perhaps, greatest in the afternoon.—*British Medical Journal*.

PRACTICAL NOTES.

CHRONIC CONSTIPATION.

At the meeting of the Berlin Medical Society, Herr Flatau introduced a new method of treating chronic constipation due to torpor of the colon. This consists in applying about three grams of boric acid. In those cases in which the lower edge of the rectum protrudes through the anus and when this remains visible after powerful contractions of the levator ani and sphincters, the quantity of boric acid mentioned is either to be dusted on or rubbed on the mucous membrane in sight. In cases in which the mucous membrane is not visible, it must be insufflated. It is important that the medical attendant should carry out the procedure himself, at any rate at the commencement. The patient should then keep quiet for a time. In from an hour to three hours, peristaltic action will be observed in the colon. He has never seen a failure from this method of treatment, nor had he seen a case where the patient got so accustomed to it that it ceased to be effective. On the contrary, if carried out systematically daily, permanent improvement in time takes place, and normal peristalsis is returned to. He had tried a number of other substances but none had the same useful effect.—*Medical Press*.

SYCOSIS.

R Iodoform, 4 parts; lanolin, 30 parts. Leache recommends the above to be applied every night, and to be washed off in the morning with hot water.

MALIC ACID LOZENGES AS AN ANTICATARRHAL REMEDY.

Malic acid lozenges have recently found considerable favor in England as a remedy for sore throat and bronchial cough. They are reported as efficient not only in excessive secretion of mucus and cough, but also in catarrhal conditions of the bowels and in hæmorrhoids.

THE TREATMENT OF BURNS.

Bardeleben treats burns after the following plan. The injured part is first thoroughly washed with carbolic acid solution from 2½ to 3 per cent., or with a solution of salicylic acid about 3 in 1,000. All the bullæ are then punctured and the serum allowed to escape, after which the whole part is thoroughly dusted with finely powdered nitrate of bismuth, and a thick layer of cotton wool applied. The latter is changed whenever it is impregnated with the discharges from the wound. If the burn is a very extensive one, the powdered bismuth may be set aside, and a bis-

moth ointment used instead. The author affirms that with this dressing cicatrization proceeds rapidly, and there is less discomfort than when any other dressing is employed. Despite the large quantities of bismuth that have been applied no toxic symptoms have been noted in consequence of its use.—*Med. Press and Circular*.

A NEW DIURETIC.

Dr. Gram, of Copenhagen, has lately introduced a new drug known as diuretin. It is made by combining theobromin in such a way as to make it exceedingly soluble, of rapid absorption, and very pleasant to take. It has been tested clinically in Strasburg; is found to act directly on the kidneys without any action on the heart or nervous system, such as we have in digitalis and caffeine.—*Dietetic Gazette*.

TREATMENT OF SYCOSIS VULGARIS.

Dr. Rosenthal proposes a method of treating sycosis which presents three great advantages: the absence of pain, relatively rapid cure, and facility of application. The diseased parts must be carefully scraped every day; and morning and evening, and also three times during the day, the following pomade should be applied:

Tannic acid, 1 gram.
Milk of sulphur, 2 grams.
Vaseline, 20 grams.

The face of the patient remains uncovered during the day. At night, after friction, an emollient paste is applied: Wilson's zinc ointment, salicylic paste, or Hebra's diachylon ointment. With the latter pomade, if the dressing be carefully made, the formation of a sulphate of lead is not to be feared. The author has lately employed with success the following paste:

Tannic acid, 5 grams.
Milk of sulphur, 10 grams.
Oxide of zinc, 17.5 grams.
Starch, 17.5 grams.
Vaseline, 50 grams.

This is applied morning and evening, gauze being placed above the dressing. Epilation is rendered unnecessary by this treatment.—*Annales de Derm. et de Syph.*, No. 4, 1890.

MENSTRUAL COLIC.

Dr. J. C. Da Costa prescribed the following in a case of menstrual colic:

R. Chloroform .pur.
Spir. camphoræ, āā fʒss.
—æther nitrosi.
—æther comp., āā fʒjss. ℥.

Sig. fʒss-j in ʒj of water, containing ʒj of spirit. frumenti, every half-hour for three doses.

SOCIETY PROCEEDINGS.

Gynecological Society of Chicago.

*Regular Meeting, Sept. 26, 1890.*THE PRESIDENT, JAMES H. ETHERIDGE, M.D.,
IN THE CHAIR.DR. HENRY BANGA read a paper on
ECTOPIC PREGNANCY, WITH REPORT OF TWO
CASES.

(See page 121.)

DR. C. T. PARKES: With all of you I have been very much interested in these cases presented by Dr. Banga. I certainly was in favor of the opinion that all cases of extra-uterine pregnancy should pass into the hands of the laparotomist for treatment; but in looking up the cases I have had under my charge, somewhat to my surprise I came across two which were not treated by operative procedure, and which recovered. I have had seven cases under my charge, which I think were all cases of ruptured extra-uterine pregnancy, with the exception of the last one, which went on the full term and three months beyond full term; she came under my care with a dead fœtus and well-marked symptoms of septic poisoning. The first two cases came to me some years ago, and in looking over my notes of these cases I am confirmed in the supposition I had then, that they were cases of extra-uterine pregnancy. This supposition was mainly based upon the symptoms mentioned by Prof. Banga as indicative of that condition, namely: 1. Acute and severe pain in the pelvis; 2. The usual symptoms of great loss of blood; 3. A previous history of several or many years of sterility; 4. Interruption of previously regular menstruation; 5. Enlargement of the uterus; 6. The presence of a tumor circumscribed in character, to be determined on one side or the other of the uterus if examined before rupture. If after rupture, the discovery of a large mass, doughy and inelastic, in the pelvis and lower abdomen; 7. The presence of a bloody vaginal discharge.

With this array of symptoms it seems hardly possible that the condition can be mistaken, and yet in contradistinction to that we must bear in mind the testimony of a man who has perhaps seen the greatest number of these cases—Mr. Tait. He says he has never seen a case of extra-uterine pregnancy before rupture; that every case that has come to him—thirty-seven in all—has been a case of rupture. So I must object a little to the idea that it is an easy thing to recognize the presence of extra-uterine pregnancy. Thirty-seven cases occurring in the practice of one man would rather indicate that physicians, as a rule, are able to recognize the condition only in its history, or are not aware of the value of these symptoms in all cases. In the first two cases I referred to, one

presented all the symptoms that I have passed in review and which were previously mentioned by Professor Banga; but she was not operated upon, because at that time I do not think much operating was done for these cases. She was treated for what was supposed to be a hæmatocele, and she went on in great danger for days and weeks, until I finally aspirated through the abdominal wall and withdrew a large amount of bloody fluid. I aspirated three or four times and she finally got well. The second case presented all these symptoms, and I would now without hesitation advise operation, as a case of extra uterine pregnancy. In this case an opening was made through the vagina and the extravasated blood and remnants drawn away, and the patient recovered.

These are two cases of recovery in which laparotomy was not done. The cases out of the seven, presenting symptoms of ruptured tubal pregnancy, in which laparotomy was done followed by recovery, I have already presented to this Society. The sixth case was a lithopedion, which I removed through the posterior walls of the uterus, and reported the case and exhibited the specimen to this Society. The seventh and last case was that of a lady who went three months beyond full term with an extra-uterine pregnancy and was taken with septic symptoms. I operated upon her and removed the entire sac and contents together. This case again proved what Mr. Tait says is so necessary to believe in these cases as a rule—that they are always outside of the peritoneum—and which is proven also by the frozen section described so beautifully by Mr. Hart. All the organs inside the peritoneum are shoved to one side and the pregnancy is outside, hence the method of treatment of the latter period of extra-uterine pregnancy. The going to full term is a matter of grave consideration and should be well understood. The method spoken of by Dr. Banga has been the one usually adopted—that is, opening down into the sac, sewing it to the wound of the abdominal walls, removing the fœtus, and then packing the cavity with antiseptic gauze. Most of these cases, previous to antiseptic days, died of septic peritonitis. Since antiseptic precautions have been adopted there has been a decided improvement in the death-rate.

The method of treating the placenta is an item of great importance in such cases—that is, whether it should be left or removed. Lately an item from the pen of Dr. Braun has appeared in the *German Archives of Gynecology*, in which he reports two cases. In the first he opened the sac, sewed it to the abdominal wall, removed the child, and then tried to ligate the vessels of the placenta inside the sac and remove the placenta. The patient died from loss of blood. In the second case he opened and sewed the sac to the abdominal walls, but ligated the vessels outside of the sac

by means of stitch ligation, and removed the placenta with no loss of blood. The patient recovered. I think where the pregnancy has gone to full term, it is not best to wait until there is loss of blood from separation of placenta and inability to control it, but to follow the suggestion of Dr. Braun and primarily ligate the vessels outside of the sac, as can be done by means of a needle and ligature, then remove the placenta and pack the cavity with gauze dressing. That seems the safest way.

This is an important subject, and I certainly think the doctor's first patient was very fortunate in many ways, especially in that she fell into such skilful and efficient hands, with gentlemen who were familiar with such cases and able to recognize them early; because I believe, as a rule, it is a condition not easy to recognize. And she was still more fortunate in that she had the confidence a patient should have in the attending physician, and consented to an early operation. One cannot help for a moment agreeing that it is better to do laparotomy before than after rupture.

DR. W. W. JAGGARD: I have listened to the reading of Dr. Banga's paper with great interest. I wish to restrict my remarks to early tubal pregnancy, before and after rupture. In the diagnosis of Dr. Banga's first case there were two signs of pregnancy present that I do not remember having heard the essayist mention. One was the blue discoloration of the anterior vaginal wall, which was more marked in this case than I am accustomed to see it, even in normal pregnancy. Chadwick, in a very excellent paper read before the American Gynecological Society several years ago, calls attention to the diagnostic significance of the blue discoloration of the anterior vaginal wall below the meatus urinarius. The second point was Hegar's sign—the softening and compressibility of the lower uterine segment; compressed between the hand on the abdomen and the finger in the vagina, the lower uterine segment felt as thin as cardboard. A few days since, in conversation with Dr. Gehring, of St. Louis, he narrated a case in which the lower uterine segment was so thin and compressible that five prominent physicians of St. Louis diagnosed the case to be one of tubal pregnancy; it turned out to be a case of normal pregnancy. What was supposed to be the uterus was merely the vaginal portion; the lump in the abdomen, the corpus uteri, was separated by a long isthmus, the compressible, lower uterine segment.

The only condition that closely resembles early tubal pregnancy, in my experience, is pregnancy in a retroflexed uterus. During the last summer I saw a case (which a member of this Society had examined very carefully bimanually), and found the vaginal portion of the cervix very much elongated, the lower uterine segment very thin and compressible, so much so that one would not notice it at

all unless attention was called to it: behind the vaginal portion, a tumor. The woman had pain; slight hemorrhage, bearing down, and a discharge of something that was mistaken for decidua. Under the genu-pectoral position for a week, the nature of the tumor was disclosed; it was a case of pregnancy in a retroflexed uterus. The woman is now in her eighth month and expects to be confined soon.

In justice to the gentleman who first examined, it must be said that careful examination under an anæsthetic would have disclosed at once the nature of this retro-uterine tumor. He did not make a positive diagnosis, but begged for an examination under an anæsthetic, which was declined; and the patient came under the observation of Dr. Webster, of Evanston, and myself. As a general rule, when the conditions for bimanual palpation are favorable—that is, when the abdominal walls are thin and relaxed, particularly when the patient can be anæsthetized—I do not think there is much difficulty in the diagnosis of tubal pregnancy before rupture. Moreover, I think there are usually present symptoms enough to attract the woman's attention to her condition and lead her to apply to a physician before rupture takes place.

I wish to congratulate Dr. Banga on his diagnostic skill in this case. It is certainly the first case in Chicago operated upon at so early a date and before rupture of the sac.

As regards treatment of tubal pregnancy before rupture, I think the weight of evidence and of responsible opinion is in favor of laparotomy by extirpation of the sac. It is true that feticide by means of electricity is defended, more particularly in the Eastern United States. I do not think this practice can be upheld on rational grounds nor upon the results that have followed the use of this method. The one individual to whom honor is due for establishing laparotomy before rupture is J. Veit, of Berlin, who has operated successfully on some seven cases.

The universal proposition that laparotomy should be performed in every case of ruptured tubal pregnancy cannot be accepted at the present day. The natural history of tubal pregnancy shows that in the majority of cases recovery results; there are five favorable terminations to one unfavorable. In the first place, the tube may rupture into the broad ligament, and we have the formation of a hæmatoma, or a broad ligament pregnancy, both relatively favorable terminations for the time being. Sometimes the tube ruptures and the egg remains *in situ*, acting as a tampon—also a favorable termination. Then we have the tube rupturing, and the product of conception, and blood, forming a retro-uterine hæmatocele—a relatively favorable termination not demanding a primary laparotomy. I think the essayist goes a little too far when he says all retro-uterine hæm-

atocoles are the results of tubal pregnancy. That view was advanced years ago by Dr. Gallard, but it has been sifted down to about 75 per cent. due to ruptured tubal pregnancy. Finally we have the tube ruptured, with free intraperitoneal hæmorrhage, the woman dying either of primary hæmorrhage or from secondary peritonitis. There is only one among all these terminations that is unfavorable, and I think, therefore, it is not right to say perform laparotomy in every case of ruptured tubal gestation. Perform laparotomy when there are signs of free intraperitoneal hæmorrhage, when there is evidence that peritonitis will likely ensue. It must be borne in mind that in case of rupture before the third month the ovum is sterile and all its surroundings are commonly sterile, and in some cases even of intraperitoneal hæmorrhage the blood and fetus will be dissolved.

DR. D. T. NELSON: The subject has been so freely discussed that it is hardly worth while for me to take the time to discuss it more, especially as I can hardly differ from the expressions already made. However, I will refer to one case which I saw five or six years ago. This case was just beyond term, or perhaps exactly at term—it was difficult to determine the exact date of pregnancy. But she had had a kind of false labor, thought herself in labor, sent for a physician, who found there was some difficulty in a normal delivery and suspected extra-uterine foetation. The following day I saw the patient in consultation; there could be no question but that the woman was pregnant, and no question that the fetus was outside the uterus. After making an examination I became satisfied that the fetus was alive, but so very feeble that it seemed to me there was no hope of saving the child by operation; and then I had the thought, as I have now, that it is not the best time to operate at full term unless you can save the fetus. In this case there seemed no hope of doing this, because there were only the slightest movements, while the day before they had been fairly strong, and the day before that well-marked and active. I advised against operation at that time, as I thought there would be more likelihood of saving the mother by waiting until the placental circulation had diminished very considerably, as I believe it does after the death of the fetus. What has become of the patient I am unable to say.

DR. FRANKLIN H. MARTIN: I should like to make a few remarks on the power of electricity to destroy the fetus in these cases. I think it is a little too radical to say that no other treatment than laparotomy should be used for the treatment of tubal pregnancy; I believe, with those who have spoken to-night, that laparotomy should be performed for this condition if the diagnosis is reasonably certain, and the consent to an operation of all parties concerned can be obtained. If the patient has the confidence in her physician

that the patient exhibited in this case, and the operation can be done, then perform laparotomy. There are cases, however, where laparotomy will not be tolerated. Thomas in the lead, we have pretty good authority for the substitution of electricity in these particular cases.

In connection with this subject I have made some experiments. They are not extensive nor conclusive, but certainly suggestive; they are in the direction of determining which current to choose, if we decide to use electricity in these cases. I believe that Thomas and others recommend the faradic current in preference to galvanism. It has always seemed to me that it is desirable to employ every precaution against rupturing the sac; if this be so, and the foeticidal effects of galvanism and faradism are the same—that is, if they are equally efficacious—I should say under those circumstances use galvanism; because, if employed with an absolute gradual rheostat so as to produce no break, it can be applied with the minimum abdominal muscular contraction or other muscular contractions which favor the rupture of the sac. The experiments that I made were for the purpose of determining the relative foeticidal value of the two currents. The experiments were conducted by the employment of incubating hens' eggs. A given number of fresh eggs, all obtained from as near the same source as possible, were placed in an incubator and placed under the charge of an expert chicken breeder. These eggs were divided previously into four divisions, and properly marked. At the end of one week after the eggs were set two portions of the eggs were operated upon by electricity; one portion by a very strong (as strong as could be tolerated by an unanæsthetized patient) faradic current passing for five minutes; the other portion by a 20-milliampère current, electrode 4 sq. cm. in area, also passing for five minutes. The galvanic current was applied by means of a gradual rheostat in such a manner as to produce no make or break in the flow.

At the end of two weeks of the incubation the other two portions of the eggs were treated by electricity in the same manner, with the exception that the faradic current was made much stronger (such as would be tolerated only by an anesthetized patient) and the galvanic current increased to 50 milliamperes.

When the eggs had passed the allotted time for hatching, about 80 per cent. of the first lot acted upon by the faradic current hatched, while not one of those treated by the galvanic current hatched. Of the second lot about 60 per cent. remained undestroyed, while not one of the chicks treated by galvanism succeeded in piercing its shell.

This proved to my mind quite conclusively, as far as chicks are concerned, that electricity in the form of galvanism is much more efficient than

faradization; in fact faradization had little effect upon the eggs. If this same ratio of value should exist in the power of electricity to destroy the human ovum, we have an additional scientific advantage in galvanism in being able to regulate our dose. One can cause to pass through a foetus, encased in its sac exactly the same dose and the same density that caused the destruction of the foetus in these eggs, and I have no doubt whatever that a foetus of three or four months' growth would be deprived of life as effectually as the chicks were at the end of two weeks of incubation.

DR. CHRISTIAN FENGER: Mr. Chairman, Gentlemen of the Society: I have heard the paper with a great deal of interest, and congratulate Dr. Banga on his very successful operations. The subject of ectopic gestation in general, particularly the later stages, is too large for discussion in one evening.

It is remarkable how of late years the number of reported operations for extra-uterine pregnancy has increased. Let us take the last three years, 1887, 1888, 1889. In 1887 there were about 50 operations recorded, in 1888 there were 70 operations, and in 1889 110.

Of the 70 cases reported in 1888, 15 were of tubal pregnancy in which the early operation was performed—that is, before rupture—with 3 deaths, a mortality of 20 per cent. In two of the fatal cases the sac was fastened in the abdominal wound. In the remaining 13 cases total extirpation of the tube with its contents was practiced; the operation was, as a rule, comparatively easy, and the results consequently better.

Sixteen cases were operated upon at the time of rupture, with 5 deaths, a mortality of 31 per cent. or much greater than the mortality when the operation was performed before rupture of the sac. We may here mention Lawson Tait's 28 cases with only 1 death, a mortality of only 3½ per cent. From the report of these cases, however, it cannot be seen whether the operation was performed at the time of, or some time after, rupture.

Ten cases were operated upon several weeks after rupture, and only 1 died, a mortality of 10 per cent. At this time the patient has recuperated to a certain extent. This, of course, does not mean that the operation should not be done at the time of rupture.

Then, again, come the 6 cases Dr. Jaggard has mentioned, where nothing was done and only 1 of which died. Dr. Parkes and Dr. Jaggard have mentioned that the contents of the sac in early tubal pregnancy are aseptic and will not cause peritonitis.

In 1889 there are on record 75 cases operated upon in the first half of pregnancy, of which 10 died, a mortality of 13 per cent. Twenty-eight of these were operated upon before the rupture of the sac, all of which recovered; 21 were operated

upon at the time of rupture, with 17 recoveries and 4 deaths, a mortality of 19 per cent.; 26 were operated upon some time after rupture, when the patient had recovered from its immediate effects, with 20 recoveries and 6 deaths, a mortality of 23 per cent.

The entire mortality for the first half of pregnancy in 1888 was 26 per cent., while in 1889 for the same class of cases it was 13 per cent. The rapid increase in the number of cases reported shows either that now an earlier diagnosis is more frequently made or that laparotomy is now more readily resorted to for peri-uterine tumor, whether a positive diagnosis of tubal pregnancy can be made or not. We also see that early operation in extra-uterine pregnancy has given better results each succeeding year.

The rest of the statistics belong to the later periods of pregnancy, and I shall not mention them in this connection, because it really does not come under the subject of the paper—"Early Tubal Pregnancy, its Symptoms and Treatment." My own experience is almost none. I have seen one case where the sac had ruptured and very severe hæmorrhage had set in, but in which, under expectant treatment, the patient finally recovered.

In 1888, the statistics gathered by Harris, of Philadelphia, showed twenty-seven cases of laparotomy with living children. Of these, twenty-five mothers died, and of the twenty-five living children thirteen died within fifty hours. This frightful mortality led Litzman to give the advice, based upon a record of twenty-six cases with six deaths, not to operate until the child was dead and the placental circulation had ceased, so as to avoid placental hæmorrhage.

Lawson Tait was the first to take up a strong position against the practice of sacrificing children. He has recorded three cases of operation with living children, in which he saved all the children and two mothers. He further argues against Harris as to the lack of vitality in the children of extra-uterine pregnancy, stating that the three children above mentioned were living and healthy, so much so that one of the children he saved by this operation is his adopted son and prospective successor.

The operations recorded for 1889 show a great improvement in the results of operations in the last half of pregnancy, inasmuch as thirty-five cases had only six deaths, or 17 per cent. Furthermore, the operations with living children for the last two years tend to bear out Harris in his assertion that the regard for the child must be a secondary one, inasmuch as in eleven operations—six in 1888, and five in 1889—only four living children were saved, and as four out of the eleven mothers died, a mortality of 36 per cent.

As to the fate of the mothers when operating after placental circulation has ceased, there were

reported, in 1888, eighteen cases with six deaths; in 1889, twenty-six cases with three deaths; in all, forty-four cases with nine deaths, or a mortality of about 20 per cent. Thus it is safer for the mother, as Litzman proposes, as against Lawson Tait, to wait until the child is dead and the placental circulation has ceased.

In this connection I will also say that five years ago I thought exactly as Dr. Nelson does, and I think so now, and in a case of extra-uterine pregnancy present low down in the vagina, waited until the foetus had died, and then waited six weeks longer until the placenta had ceased to pulsate, and then still two weeks more in order to be safe. I then removed the child, which was at full term, through the vagina. The case has been mentioned in this Society, as Dr. Holmes was kind enough to see the case at the time with a view of determining whether such a foetus was septic or aseptic.

I do not see that we have time to discuss the details of the value of these late operations in extra-uterine pregnancy, whether through the vaginal wall or through the vagina.

DR. C. W. EARLE: In the very brief remarks which I will make I desire more particularly to speak regarding the diagnosis of these cases. In the discussion up to this time it would seem that about the only thing to be done is to stop the growth of the foetus either by electricity or morphine, or remove the sac by laparotomy. The most important but difficult question, in my judgment, is to arrive at a correct diagnosis. Dr. Jaggard's remarks reminded me of a case to which I was called in consultation a few months ago. It was believed to be a case of extra-uterine pregnancy, and the gentleman who asked me to see the case with him thought an operation would be necessary. He based his diagnosis upon the points Dr. Jaggard made—that is, the thin condition of the wall found by digital examination; the wall that separated the finger from the foetus did not seem thicker than a sheet of paper, and yet after careful examination we both agreed that the foetus was inside the uterus, and the case went on to a safe delivery at full term. A few minutes before I started for this meeting I took Winckel's last work, translated by Edgar, and jotted down the symptoms upon which he based his diagnosis. While he considers that it is a difficult condition to diagnose, he believes, after an experience in thirteen cases, that he can usually arrive pretty closely at a correct conclusion. He bases his diagnosis upon these symptoms: First, the cessation of normal menstruation, previously normal; second, hyperæmia and secretion of the breasts; third, hyperæmia and lividity of the vulva (this symptom has been thoroughly discussed by Dr. Banga and Dr. Jaggard); fourth, strong pulsation of blood-vessels in the vault of the vagina; fifth, softening en-

largement, and displacement of the womb; sixth, a clearly defined and growing tumor; and lastly, a murmur or souffle above the symphysis, heard at rather an early period. He insists on frequent observations and examinations, so that he can determine the rapidity of the growth of the tumor. I think Dr. Jaggard's statement that all authorities, except Americans, believe in early laparotomy in these cases, is a little too positive. In Winckel's book he states decidedly that he believes there is a chance for, first, electricity; secondly, for a trial with morphine or some of the other poisons that will destroy the life of the child.

DR. BAYARD HOLMES: The mother is exposed in extra-uterine pregnancy to an immediate and to a remote danger. The immediate danger is fatal æmæmia when rupture of a tube takes place, and the remote danger is sepsis in a limited hæmatoma or in a retained dead foetus. For the æmæmia there seems to be an indication for transfusion which may prove valuable. In a study of the bacterial condition of dead extra-uterine foetuses which I presented to this Society, my attention was called to the great danger of sepsis. Hæmatomata in other parts of the body are ordinarily removed without any febrile disturbance, except that early and transient rise which has been attributed to "ferment intoxication." The case is very different in those pelvic hæmatomata which are due to extra-uterine foetation. Both the retained dead foetuses and the hæmatomata in this region become infected, in the great proportion of cases, within six months, and a large percentage of the remainder by the end of a year. This fact, I believe, is to be explained by the cause of extra-uterine foetation, which there is great reason to believe lies in an antecedent infective inflammation in the tubes or the endometrium.

In order that an extra-uterine pregnancy may take place, there must be some malformation or deformity in the sexual apparatus. It does not take place in the normal condition of the tubes and uterus. That it may be a malformation we can readily see, because the present condition of the human uterus is evolved from a very large and divided uterus which is exhibited in the foetus and the lower animals. We may expect an occasional reversion to the original type, and hence a risk of extra-uterine foetation. Such an arrest of development cannot often occur, because anatomists do not find these deformities frequently.

Most cases of extra-uterine pregnancy are preceded by a long term of sterility following an unhealthy puerperium, which in itself points to some deformity in the sexual apparatus arising from one cause or another. It is probable that most of these cases of deformity are due to a process of inflammation, and that inflammation is due to sepsis, and sepsis is due to infection; that

accounts for the presence, in close proximity to this extra-uterine fetus, of septic material, and it is the presence of that septic material which converts the hæmatoma into an abscess. Of course we must always consider the possibility of pressure atrophy between the heavy, dead fetus and the contents of the bowel (hard feces) opening a communication between the bowel and the fetus and producing infection in that way. That must be considered in these cases, but it cannot well be considered in cases of large accumulations of blood. We cannot consider the possibility of suppuration or any septic decomposition of a large mass of blood without infection; that is impossible. Infection is rare through the circulation, but it is not wholly unknown. Therefore I look upon the indication to be these two: The dangers from hæmorrhage and the dangers from sepsis. But the danger from sepsis is imminent on account of the probable etiology of extra-uterine fetation.

DR. E. W. SAWYER: I will add but one thought, which was brought to my mind by the remarks of Dr. Nelson—that is, that a sort of false labor sometimes appears at term. This reminded me of a case I attended in 1874, with Dr. Justice, of Denver, in a little village in the foothills of Colorado called Boulder. The woman had expected to be delivered two years before our visit, and was visited by a very intelligent attendant who described a series of phenomena nearly approaching normal labor, which extended through a period of nearly twenty-four hours; then everything subsided. She carried her size for about a year, when she grew smaller and became active again. She was the wife of the proprietor of the single hotel there, and we visited her for the purpose of performing laparotomy. The details of the operation shock me now as compared to the precautions taken to-day. We operated and removed a fetus which weighed 4¾ lbs. Its tissue was converted into a sort of adipocere, so that in flexing the elbows the tissues cracked. The sac contained much pus, and the precautions against sepsis were not to any degree observed. The poor woman died at the end of about three days.

DR. H. W. BANGA, in closing the discussion, said: As to the diagnosis of these cases, Dr. Jaggard mentioned a case of retroverted uterus that was taken for extra-uterine pregnancy, and remarked that probably by using an anæsthetic the true condition of the case would have been revealed at once; so I would repeat that for a correct diagnosis it is absolutely necessary to use an anæsthetic, as I think we ought to do, and probably most of you do in doubt about the nature of any pelvic disorder. Dr. Jaggard took exception to my statement that laparotomy should be performed in all cases of rupture. I see I did not make my statement plain enough. I had in view

what was *formerly* called extra uterine pregnancy, thus excluding beforehand the cases of hæmatocele. Up to a few years ago hæmatocele was not described as one of the outcomes of a case of tubal pregnancy, and, as far as its clinical aspect is concerned, it takes an entirely different run from free rupture into the abdominal cavity. Since I have listened to Dr. Holmes' remarks I am more than ever convinced that laparotomy is the thing to be done in the latter cases.

I should think it only proper to try in this manner to stop the hæmorrhage if the symptoms show that internal hæmorrhage is the prime danger, or to remove a septic fetus and wash out the peritoneal cavity if sepsis is the more prominent symptom. In relation to this question of doing laparotomy, we must always bear in mind that from year to year laparotomy, as such, becomes less dangerous; and we all know, too, that as each of us sees more of these cases, we also have more personal confidence in being able to control sepsis. I must say that I consider the dangers incident to the operation, as such, to be very small. I further refer Dr. Jaggard to what I said about the treatment of hæmatocele. I did not recommend any immediate surgical interference in those cases. I said I would first wait for resorption, because I knew that resorption is the rule in a case of hæmatocele; should it fail to occur I would try an operation. Dr. Parkes related a case that he cured by aspirating; I have had a similar one. Then, if the symptoms warranted it, I would open and evacuate, either through the abdomen or through the vagina. In my second case, the steady increase of the tumor, causing intense pain, and the displacement of the bladder away above the symphysis, so that the patient was entirely unable to pass water, were the direct indications for operating. In cases of hæmatocele there is very little danger of the patient bleeding to death, because, no doubt, the beginning of the hæmorrhage occurs into the distended tube or between the folds of the broad ligament. During the first hours or days it is a hæmatoma, and only after the tension of the bloody tumor has become such that the covering peritoneum finally tears will there be a free effusion of blood into the abdominal cavity. This was quite plain, I think, in my second case. There was a hæmatocele filling out the Douglas cul-de-sac up to near the umbilicus, and inside of this sac was what we might call a hæmatoma of the left broad ligament, or rather a hæmatomosalpinx, because the big coagulum corresponded to the middle of the left tube, both ends of which were torn by the accumulation of blood within.

Hardly ever is there any immediate danger from hæmorrhage in case of hæmatoma or hæmatocele, because the coagulum which forms at the seat of the first oozing acts as a compressing tampon on the ruptured blood-vessels. But where the sac ruptures freely into the abdominal cavity,

the patient is liable to bleed to death, either in a few hours or a few days. I remember about nine years ago having seen such a case. It was a very hot day in July. The lady was getting ready to go down town, and while she was standing before the glass, giving the finishing touch to her toilet, she was suddenly seized with vertigo and a sharp pain in her abdomen; she began to vomit, and had all the symptoms of cholera morbus. Several physicians were sent for, and, as she had diarrhoea and tenesmus within an hour of the first attack, they took it for a case of cholera morbus. This occurred about 10 o'clock in the morning, and I was called in about 9:30 in the evening. At that time I was making reports from German periodicals for Dr. Mundé, and there was much discussion going on about extra-uterine pregnancy; so that when I saw the patient I at once thought, "I wonder if this is not a case of rupture of an extra-uterine ovisac?" She was almost bloodless; the lips and conjunctiva had lost all color; she was breathing heavily, had no pulse; the skin looked waxy and was covered with a cold sweat; she was apparently dying. By digital examination I found the posterior cul-de-sac bulging down, giving a peculiar doughy, soft touch, which to me plainly demonstrated an accumulation of something like coagulated blood.¹ While I was there the patient died. I was so much interested to know what it was that I got permission of the husband to make a post-mortem. On opening the abdomen the black, half-coagulated blood welled out, and, after removing it, I found a tubal ovisac about as large as a big plum, which had burst, thus causing unhindered oozing of blood, and death. The patient had been married eight weeks; had gone two weeks over her last menstruation.

I should think it impossible to confound a case of free hæmorrhage into the abdominal cavity, and a case of hæmatoma or hæmatocele retro-uterina.

To Dr. Parkes I would say I did not leave any coagula in the hæmatocele sac; I opened it and scooped it out with my hand. Of course there is nothing so apt to undergo quick disintegration as blood.

FŒTUS PAPYRACEUS.

DR. W. W. JAGGARD: My friend and former pupil, Dr. A. E. Froom, of Chicago, gave me the specimen that I have the honor to present.

History.—May 1st, 1890, Dr. Froom was called to see Mrs. M., age 21 years, recently married; three months advanced her in first pregnancy; suffering from nausea and vomiting. The complaint not yielding at once to the usual simple remedies prescribed, the patient applied, but without bene-

fit, to several prominent physicians. Finally, about the fifth month, she returned to Dr. Froom. At this time the woman was in a most distressing condition—incessant vomiting and retching, diarrhoea, bloody stools, tormina and tenesmus, fainting spells. The woman complained of intense vulva and anal pruritus, and upon examination Dr. Froom discovered a "scaly eruption about the parts," and infiltration of the inguinal glands on both sides. Alopecia was also observed. The diagnosis of syphilis was made, although a careful search failed to reveal the initial lesion.

Under the exhibition of mercury the woman showed immediate and marked improvement.

August 12th patient fell in premature labor. Patient had not been able to perceive foetal movement for the week previous, and the heart tones were not perceptible. After four hours of labor a macerated foetus, corresponding to the seventh month, was expelled; it was followed in ten minutes by the placenta. Dr. Froom was about to irrigate the uterine cavity when he noticed the intact membranes of a second ovum presenting at the os externum. This second ovum, corresponding to the third month, was easily expressed. Puerperium normal; uterus is single. The father admits syphilitic infection three years ago.

The specimen consists, as you see, of a twin pregnancy.

The first twin, female, length 35 cm., weight 1172 gm., with its macerated epidermis, is a typical example of the *fœtus sanguinolentus* (E. Martin). It corresponds to the seventh month. It also presents certain objective signs of syphilis that are perfectly distinct from mere cadaveric changes. These are: 1. The line of syphilitic osteo-chondritis at the junction of the diaphysis with the epiphysis in the long bones, described by Wegner. In this specimen you can see this line in the upper and lower epiphyses of the femur. 2. The spleen is greatly increased in volume, consistence, and weight. It weighs 12 gm., or 0.98 per cent. of the total weight of the foetus, while the average normal weight of the spleen at birth is 9 gm., or 0.3 per cent. of the body weight. According to Ruge, in normal foeti, under 2,000 gm. the weight of the spleen is $\frac{1}{100}$ of the body weight; in non-syphilitic macerated foeti, $\frac{1}{80}$; in syphilitic macerated foeti, $\frac{1}{75}$. In this case the spleen is $\frac{1}{75}$ of the body weight. 3. The liver weighs 52.5 gm. According to Ruge, in normal foeti under 2,000 gm. the weight of the liver is $\frac{1}{100}$ of the body weight; in non-syphilitic macerated foeti, $\frac{1}{80}$; in macerated syphilitic foeti, $\frac{1}{75}$. In this case the liver is about $\frac{1}{75}$ of the body weight.

No gross lesions were detected in the cord, lungs, liver, spleen, and these organs have not yet been examined microscopically.

Unfortunately, the placenta was thrown out by the nurse. Dr. Froom said the cord was cedematous (?), and that an amber-colored, transparent

¹ Veit, as I have read since, claims that it is impossible to diagnose by digital examination an accumulation of coagulated blood in the abdominal cavity.

substance, of the consistence of jelly, was attached to the membrane.

The ovum of the second twin is intact; its weight is 88.5 gm., and it presents an instance of mummification—the usual post-mortem change in foeti between the third and sixth months *in utero*. The placenta, fully formed, is flattened and compressed into a solid disc 10 cm. in diameter. The liquor amnii has disappeared. The foetus, about three months old, male, 13 cm. in length, is a typical example of the *fetus papyraceus*—the form commonly observed when a dead foetus, retained *in utero* for a considerable period, is strongly compressed and flattened out, as the name implies. The conditions for this peculiar mode of compression are best supplied in twin pregnancy, in which, while one foetus dies, the twin goes on to complete development.

The points of interest in this specimen that I beg to mention are:

1. These foeti—each with its own placenta, chorion and amnion: the one female, the other male—contained within the same single uterine cavity, are probably the resultants of the simultaneous fecundation of two ova. These ova may have come from the same Graafian follicle, or from the same ovary, or from both ovaries. According to the old view, the fact that the placenta are entirely separate would indicate that the ova did not come from the same ovary. For some cause, not now discoverable, the ovum containing the male was crowded to the wall by the other, and converted into this flattened-out, paper-like mass.

The specimen, probably, is not an example of superimpregnation. While the possibility of superfecundation—that is, the successive fecundation of two or more ova out of the same ovulation period—in the human animal must be admitted, its actual occurrence has never been demonstrated. The not uncommon occurrence, 1, of a white woman having twins, one a mulatto, the other white; and 2, of a black woman's twins, one black, the other a mulatto, does not prove successive fertilization by different men. Kussmaul has correctly pointed out that in the crossing of races the offspring may resemble most closely either parent, so that a white infant born of a white woman may be the legitimate child of a negro. Schultz emphasizes this opinion, and demands, for the demonstration of superfecundation, two different children of a white woman after cohabitation with two men differing in race from each other and from the mother. Such an observation up to the present has not been recorded. Undoubtedly superfecundation occurs in mares, bitches and cats, among the lower animals, but then multiple pregnancy is the normal among these animals, while it is exceptional and closely allied to the abnormal in the human animal. Conclusions drawn from observation of the lower animals accordingly cannot be applied directly to human beings.

The principal arguments against *superfecundation*—that is, conception during pregnancy—lie in the suppression of ovulation and the disappearance of the cilia of the epithelium of the endometrium during gestation, and finally the entire absence of observations, that would make this hypothesis plausible.

2. First pregnancies are seldom multiple pregnancies.

3. The objective signs of syphilis in the macerated foetus, that are perfectly distinct from the cadaveric changes of non-syphilitic macerated foeti retained within the cavum uteri. I venture to emphasize this point, because it is a common error to regard all macerated foeti as syphilitic. Indeed, between 70 and 80 per cent. of such cases are syphilitic, but there remains a certain number in which the *fetus sanguinolentus* is merely the result of cadaveric change. In some of these cases of the latter class, it is very difficult to make an anatomical diagnosis, since the relative increase in the weight of the viscera is not an absolutely certain sign of syphilis, and the normal line of Guerini may come to resemble the ostea-chondritis described by Wegner.

EXHIBITION OF BROMIFORM.

DR. CHAS. W. EARLE: I want to occupy two or three minutes of the time of the Society in the consideration of a very unpopular procedure—that is, the administration of medicine—and introduce to your notice bromiform, the latest remedy for whooping cough. About six weeks ago my attention was called to this drug by an article in a German paper, and about that time an article was also published in the *Medical Record* by Dr. Fischer, reporting some sixteen cases to which he had administered it with marked benefit. By this time I had procured the medicine, and have now had experience with it in six cases. In five cases there has been marked improvement, although it was not a fair trial, because they had passed pretty well along into the second stage and had commenced to recover. In some of these cases there were thirty paroxysms a day previous to administering the drug, and in four days the paroxysms had been reduced to ten. It has rather a sharp, pungent odor, and it is best administered in syrup of acacia. I usually combine it with a little paregoric. The dose for a child two years of age is two drops, a child four years old four or five drops. Usually the administration from twenty to sixty drops in five or six days lessens the number of paroxysms. It is best given after meals; and the children to whom I have administered it have made no objection to taking it. It is recommended by several of the leading practitioners in Vienna, and I bring it before the Society because we are having considerable whooping cough and I think it would be well to give it a trial.

SPECIAL CORRESPONDENCE.

Treatment of Blepharospasm.

To the Editor:—In the last number of THE JOURNAL (December 27, 1890), under the heading of "Treatment of Blepharospasm," Giraud, (*Thèse de Paris*) is quoted as treating this annoying and at times intractable affection by forcible dilatation, using a pair of retractors or a spring speculum—the separation of the lids being carried to a degree of exposing the conjunctival cul-de-sac—and keeping the eyelids in this position for three or four minutes. For several years I have been using a similar method in my clinic at the New York Eye and Ear Infirmary—with the difference that I do not forcibly put the orbicularis palpebrarum on the stretch. The good results, not from stretching, but from the exposure of the sensitive cornea to daylight—the natural stimulus of the eye. In all cases of conjunctival or corneal trouble this procedure cures the blepharospasm if it exists. The speculum is put between the eyelids and opened so as to expose the cornea. Patient is kept with the eye exposed to diffuse daylight from five to ten minutes. I find that most of the cases occur in children and are due to pteryctenular keratitis. In many of the cases the photophobia is very great, and the children avoid light with might and main. The little sufferer buries its face in the pillow or the mother's breast. With this condition existing for a few weeks—the room darkened, perhaps—it is easy enough to imagine how a blepharospasm comes on. If the child is placed in an upright position or put on its back, the chances are that it will begin to sneeze. This is due to the change in temperature that takes place in the nose. When the head is buried in the breast or pillow the nose is kept unduly warm by the breath, but on changing from the bent position, so that the breath does not unduly heat the nose, the sneezing begins, the slight change in temperature is sufficient. In this connection I may add that it is not the light which causes the child to sneeze, as some suppose.

With regard to the suggestion of using an eye speculum in blepharospasm, the credit, if I am not mistaken, belongs to the late Dr. C. R. Agnew. Very truly,

PETER A. CALLAN, M.D.

New York, December 29, 1890.

Shall The Journal be Removed to Washington?

To the Editor:—I cannot see any valid reason for changing the locality of publication of THE JOURNAL. If at any time it could be shown that the interest of THE JOURNAL and of the members of the Association would be enhanced, then I am

ready to coöperate with the members in such action. It seems to me removal to Louisville, Cincinnati or New York would be just as good as Washington. Facilities of mail are such that subscribers will receive THE JOURNAL within a few hours as soon from Chicago as any other point.

N. HOLTON, M.D.
Harkers Corners, Ill., Jan. 13, 1891.

To the Editor:—By all means do not remove THE JOURNAL office. Chicago I consider by odds the *very best* place for the office for several splendid reasons; the first I consider enough—"that it is so easy of access from any part of the United States." I also think that there are a good many other *good* reasons in favor of Chicago, but do think this one enough, especially when compared with Washington, which place I think has no *good* reason in favor of such a removal.

H. K. TEFFT, M.D.
Topeka, Kan., Jan. 11, 1891.

To the Editor:—I am opposed to the proposition made to move the publication office and management of THE JOURNAL of the Association to Washington City. I vote CHICAGO to be continued as its permanent home because it is most central and has unexcelled mail facilities to all parts of the country, and because it is now and will continue to be nearer the centre of population, and destined to be the greatest medical centre of the United States.

I would formulate a ballot and distribute to every member of the Association, requesting his vote on location, with signature and P. O. address, to be returned to the committee having the question of location in charge. This seems to be the legitimate way to satisfactorily settle the issue.

W. W. HESTER, M.D.
3640 Cottage Grove Ave., Chicago, Jan. 16, 1891.

To the Editor:—While there appear so many reasons for keeping THE JOURNAL where it is, I oppose the question of removal. It would seem that the facility of distribution which the present location affords should decide the matter if nothing else does.

I second Dr. Dimmitt's motion that a vote be taken at an early date. This will give every member a chance to express his opinion.

W. E. WARD, M.D.
255 North ave., Chicago, Ill., Jan. 17, 1891.

To the Editor:—I am opposed to moving THE JOURNAL to Washington or any other city. The suggestion of Dr. Dimmitt's (January 17) is a good one.

J. N. DIXON, M.D.
Springfield, Ill., Jan. 19, 1891.

To the Editor:—There is no city in the United

States more suitable for the publication of THE JOURNAL than Chicago. It is unwise to move, and it is the height of folly to move THE JOURNAL from a large, rapidly growing city with its large material for journalism, to a small town, even though it be the capital of the country.

J. F. JENKINS, M.D.

Tecumseh, Mich., Jan. 19, 1891.

To the Editor:—Let THE JOURNAL remain where it is.

I. N. BRAINERD, M.D.

Alma, Mich., January 19, 1891.

To the Editor:—From a common-sense view of the subject, it does appear that a petty rivalry plays a prominent part in the controversy.

If there is one cause more patent than all others why THE JOURNAL should be moved, it perhaps lies in this query: Is it more profitable to cater to the whims of one faction rather than observe the old adage, "let well enough alone?"

Whilst it is probable that THE JOURNAL would receive an additional support, both in contributors and readers, if moved, yet this gain would most likely be at the expense of losing some of the present support.

But for a solution of this problem, much of course depends on a proper appreciation of the rivalry existing between the two sections, and the bearing of this rivalry on the medical profession.

A medical journal in any section of the country, receives most of the support from the near surroundings, and becomes identified with the writers of that section. A journal in the East is supported mainly by Eastern writers, in the West by Western, and in the South by Southern writers. This is all well enough generally, but when a journal belongs to a National Association, such a tendency to become identified with any one section, to the exclusion of all others, is detrimental to the better interests of the Association, and should be thwarted in its incipency.

To argue that THE JOURNAL, if moved to the East, would not, in after years, become identified with Eastern writers to a very great extent, seems contrary to our past observation.

Chicago is neither Eastern, Southern, nor extremely Western, and should be taken as a liberal compromise.

To let it remain would only disappoint a small number of the Eastern members of the Association, but to remove it to Washington would meet with almost the unanimous opposition of the North, South and West. The postal facilities are such that it makes but little difference whether THE JOURNAL is printed in Maine or California.

Should it be removed to Washington, the Eastern correspondents would have to send their communications and receive their JOURNAL by mail, just the same as at present. It is no more trouble

nor expense to address THE JOURNAL at Chicago than at Washington. Then what is to be gained by removing it to Washington?

W. F. ROCHELLE, M.D.

Jackson, Tenn., January 19, 1891.

NECROLOGY.

DR. ARCHIBALD O. AMEDEN, formerly of Ticonderoga and health officer of Glens Falls, N. Y., died suddenly in his office, November 28, of cardiac disease. He graduated from the Medical Department of the University of Vermont in 1865, and was a member of the Warren County Medical Society.

DR. GLOVER PERIN, Colonel and Assistant Surgeon General, U.S.A., retired, died at his home in St. Paul, Minn., December 15. He was appointed Assistant Surgeon U. S. A., from Ohio, December 4, 1847, and attained the rank of Surgeon and Major May 21, 1861. His experience covered the Mexican and Civil Wars. He was Medical Director of the Department of the Cumberland, headquarters at Louisville, Ky., during the latter contest, in which capacity he displayed great administrative ability, and later he was in charge of one of the general hospitals in Evansville, Ind. After the close of the war he served as Medical Director of the Department of the Missouri for six years, and the Department of the Dakota from 1883 to his retirement in 1887.

DR. FREDERICK SALZER, one of the Professors of Surgery at the University of Vienna, died somewhat unexpectedly on Nov. 30. He had been just twenty years in the professorate. The *Brit. Med. Journal* says: "In him consummate surgical skill was associated with remarkable good luck in respect of the results that followed his operations, two things that do not always go together. He did not wield the pen with the same facility as he used the knife, and he contributed comparatively little to surgical literature." He was sixty-three years of age.

DR. ALFRED F. HOLT died in Martin, Fla.,* whither he had gone in quest of health, Dec. 28, 1890. He was graduated from the Medical Department of the University of Vermont in 1860, and joined the 30th Massachusetts Infantry a year afterward, as Asst. Surgeon, but was promoted Nov. 26, 1862, to be Surgeon of the 1st Texas cavalry, and was mustered out as the Lieut.-Colonel commanding of the latter regiment May 20, 1865. He performed many acts of personal heroism in carrying wounded soldiers off the field of battle, and was commended in general orders for his bravery. At the time of his

death he was Surgeon-General of the Massachusetts Volunteer Militia, having been appointed by Gov. Robinson Jan. 3, 1884, and also U. S. Pension Examiner for Cambridge, Mass.

MISCELLANY.

LIST OF PERMANENT MEMBERS.—The following names were omitted from the List of Permanent Members: Dr. M. H. Burton, Troy, N. Y.; Dr. J. R. Hinkle, Sullivan, Ind.; and Dr. S. J. Wright, Tallmadge, O.

HEALTH IN MICHIGAN.—For the month of December, 1890, compared with the preceding month, the reports indicate that puerperal fever, cholera infantum, pleuritis, membranous croup, pneumonia, inflammation of bowels, inflammation of brain, measles and whooping-cough increased, and that typhoid fever and scarlet fever decreased in prevalence.

Compared with the preceding month the temperature was lower, the absolute humidity was less, the relative humidity was slightly more, the day ozone and the night ozone were more.

Compared with the average for the month of December in the four years 1886-1889, pleuritis, membranous croup, influenza, puerperal fever, cholera infantum, bronchitis and cholera morbus, were more prevalent, and measles, typho-malarial fever, whooping-cough, and typhoid fever were less prevalent in December, 1890.

For the month of December, 1890, compared with the average of corresponding months in the four years 1886-1889, the temperature was slightly lower, the absolute humidity and the relative humidity were slightly less, the day ozone was slightly less and the night ozone was more.

Including reports by regular observers and others, diphtheria was reported present in Michigan, in the month of December, 1890, at 70 places, scarlet fever at 100 places, typhoid fever at 41 places, and measles at 33 places.

Reports from all sources show diphtheria reported at 5 places more, scarlet fever at 32 places more, typhoid fever at 9 places less, and measles at 10 places more in the month of December, 1890, than in the preceding month.

LETTERS RECEIVED.

Dr. F. W. Samuel, Louisville, Ky.; Dr. M. W. Scott, Emerado, N. Dak.; Canton Surgical & Dental Chair Co., Canton, O.; Dr. J. J. Winn, Norwood, O.; Dr. W. E. B. Davis, Birmingham, Ala.; Dr. B. W. Davis, Montgomery, Vt.; Dr. E. B. Woodruff, Auburn, N. Y.; Dr. E. P. Robinson, Orange City, Fla.; Valentine's Meat Juice Works, Richmond, Va.; Dr. M. A. Bogie, Kansas City, Mo.; Dr. W. H. Siebert, Steelton, Pa.; Miss Mary D. Troye, South Manchester, Conn.; Dr. A. O. Gilman, St. Cloud, Minn.; Worcester District Med. Association, Worcester, Mass.; Dr. L. G. North, Tecumseh, Mich.; Dr. E. H. Dudley, Jaunesville, Wis.; Dr. G. W. Murphy, Danbury, Ia.; Drs. J. W. and R. La Grange, Marion, Ia.; Dr. John Casson, Alexandria, La.; Dr. R. Harvey Reed, Mansfield, O.; Dr. C. H. Bruner, Greenfield, Ind.; Kegan Paul, Trench, Trubner & Co., London, Eng.; Horlick's Food Co., Racine, Wis.; Sharp & Dolme, Baltimore, Md.; Dr. I. A. McSwain, Paris, Tenn.; Dr. J. H. Thompson, Lansing, Ia.; Dr. J. Wm. Trabert, Annville, Pa.; Dr. F. W. Dimmitt, Oneida, Ill.; Dr. B. F. Hart, Marietta, O.; Dr. H. B. Tanner, South Kaukauna, Wis.; Dr. C. W. Rook, San Antonio, Texas; Dr. D. S. Booth, Belleville, Ill.; Dr. W. J. Robinson, Lapeer, Mich.; Dr. L. H. Calloway, Nevada, Mo.; Dr. Henry Baker, Lansing, Mich.; Dr. A.

B. Baker, Atlanta, Ga.; Dr. Chas. McLean, Griswold, Ia.; Dr. R. Galloway, Bloomington, Ind.; Dr. H. T. Bahnsen, Salem, N. C.; Dr. T. E. Schenck, Harveyville, Kans.; Dr. S. S. Stewart, Allegheny, Pa.; Dr. G. M. B. Maughs, San Francisco, Cal.; Dr. Rowland G. Freeman, Dr. D. A. McMichel, Dr. J. I. Bluestone, J. H. Bates, A. W. Jackson, Dr. M. E. Van Fleet, Women's Medical College, American and Continental Sanitas Co., Lehn & Fink, J. Morius & Son, N. Y. City; F. B. O'Connor, Dr. R. M. Wyckoff, Brooklyn, N. Y.; Dr. Dowling, Cincinnati, O.; Rio Chemical Co., Dios Chemical Co., St. Louis; Doliber-Goodale Co., Boston; Dr. C. R. Greenleaf, Washington, D. C.; Dr. W. E. Quine, Dr. Z. P. Hanson, Rush Medical College, Lord & Thomas, Dr. G. Frank Lydston, The Philadelphia Polyclinic, Dr. W. B. Atkinson, Wm. R. Warner & Co., Dr. R. J. Duglison, Philadelphia; Tarrant & Co., Dr. W. M. Beckwith, Dr. M. R. Klein, Dr. Mary H. Cotton, New York City; H. A. Jones, Dr. W. J. Delahanty, Worcester, Mass.; Dr. G. W. Browne, St. Louis, Mo.; A. J. Cook, Dr. A. L. Hummel, G. H. Rigby, Philadelphia; New Table Co., St. Louis, Mich.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 10, 1891, to January 16, 1891.

First Lieut. Henry D. Snyder, Asst. Surgeon, is relieved from duty at Ft. Reno, Oklahoma Ter., and will report in person to the commanding officer, Camp Guthrie, Oklahoma Ter., for duty at that station, relieving Capt. John L. Phillips, Asst. Surgeon. Capt. Phillips, on being so relieved, will report in person to the commanding officer, Ft. Reno, Oklahoma Ter., for duty at that station. By direction of the Secretary of War. Par. 16, S. O. 11, A. G. O., Washington, January 14, 1891.

PROMOTIONS.

To be Asst. Surgeon with the rank of Captain, after five years' service, in accordance with the Act of June 23, 1874:

Asst. Surgeon Henry S. T. Harris, January 5, 1891.
Asst. Surgeon Leonard Wood, January 5, 1891. A. G. O., Washington, January 12, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy for the two Weeks Ending January 17, 1891.

Surgeon M. L. Ruth, ordered to the U. S. S. "Newark," February 2, 1891.

P. A. Surgeon W. H. Rush, detached from U. S. S. "Saratoga," and to the U. S. S. "Newark," February 2, 1891.

P. A. Surgeon Richard Ashbridge, ordered to the U. S. S. "Saratoga."

Medical Director W. T. Hord, ordered as President of Medical Board, to relieve Medical Director J. Y. Taylor.

Medical Director R. C. Dean, detached from hospital, Chelsea, and to Medical Board, Washington.

Medical Director J. V. Taylor, to be placed on the Retired List January 22.

P. A. Surgeon W. H. Rush's orders to the "Newark" are revoked.

P. A. Surgeon Richard Ashbridge's orders to the "Saratoga" revoked, and wait orders.

P. A. Surgeon A. G. Cabell, detached from ironclads and to the "Newark."

P. A. Surgeon G. P. Lunsden, ordered to the ironclads at Richmond, Va.

CORRIGENDA.

In the List of Permanent Members published in THE JOURNAL for Dec. 27, 1890, page 935, for Wm. J. Craw, read McCaw; page 937, the address of Dr. Richard Robinson should read *Danielsonville*, Conn.; that of Dr. W. J. Robinson, Lapeer, Mich.; and that of Dr. E. Paul, Memphis, Tenn.

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No 5.

ADDRESSES.

THE PHYSICIAN AS A MAN AND A
CITIZEN.

*The Presidential Address delivered before the Medical Society of the
District of Columbia on December 17th, 1890.*

BY SWAN M. BURNETT, M.D., Ph.D.,

PROFESSOR OF OPHTHALMOLOGY AND OTOLGY IN GEORGETOWN
UNIVERSITY, OPHTHALMIC AND AURAL SURGEON TO THE GAR-
FIELD, THE PROVIDENCE, AND THE CHILDREN'S HOSPITALS.
DIRECTOR OF THE EYE AND EAR CLINIC AT THE EMER-
GENCY HOSPITAL AND CENTRAL DISPENSARY,
WASHINGTON.

Fellow Physicians: The revival of an old cus-
tom of the Medical Society of the District of Col-
umbia has imposed upon me, as its retiring Presi-
dent, the responsibility of this occasion.

Though feeling keenly my inability to do full
justice to the opportunity, I am yet glad, in so
far as it allows me thus publicly, at the close of
our year's labor together, to express my personal
thanks to you for the efficient manner in
which you have seconded all my endeavors, as your
presiding officer, in furthering the work of the
Society, and to congratulate you upon the char-
acter and amount of the work accomplished.

The work of the year 1890 has equalled, if not
surpassed, in importance, in both these particu-
lars, that of any preceding year in the history of
the Society. The papers have been large in num-
ber and varied in their subject matter, and have
been discussed, as a rule, freely, but always in
the friendliest spirit of purely scientific interest.
For all this I am happy to take this opportunity
of placing the credit where it justly belongs,
namely, to the untiring energy of the Committee
on Essays,—and particularly its most efficient
Chairman, and to the ready and generous re-
sponse the members have given to the calls made
on them for essays and discussions.

I desire also to express again my profound ap-
preciation of the honor you conferred upon me in
electing me to preside over your deliberations for
one year. It was an expression of confidence
which, I assure you, I shall always retain among
the pleasantest memories of my professional car-
eer. I have received, at your hands, nothing
but the most respectful consideration and kind-
ness; and the problem of this evening's perform-
ance, in which I am expected to discharge in a

measure this obligation, has, I must confess,
weighed not a little upon me. I carried it with
me on my summer's vacation beyond the sea and
revolved it oft-times in my mind as I speeded
along between ocean and sky, trying to find the
theme most fitting to the occasion. Not that
there are not plenty, and to spare, of problems in
medicine, which are awaiting discussion and so-
lution at our hands, but for ten months in the
year we are struggling with these scientific ques-
tions and fighting inch by inch toward the goal of
truth in the diagnosis, etiology, pathology and
therapeutics of disease. It is but nature, there-
fore, that you should, for the nonce, become
somewhat weary of these, and desire a change in
the trend of thought.

We are physicians and we love our noble call-
ing but the questions must often come to us, Are
we physicians and nothing more? Are we mere
diagnosticating and healing machines, grinding
out opinions and advice as the grist comes from
the mill? Is our outlook upon the world only on
perverted function and diseased and disordered
action? Is humanity only one vast museum of
pathological specimens for our contemplation and
study? And the thought came to me as it has
often come before, that neither we ourselves, nor
the world at large, are wont to regard sufficiently
the importance and the needs of the man back of
the physician. And as I saw and mingled more
with that immense congregation of medical men
which convened at the German capital, and was
able to study them collectively both at work and
at recreation, the more was impressed upon me
the necessity of calling a halt and taking stock of
ourselves, as it were, and considering whether or
not we are in danger of allowing the profession to
dwarf many of the essentials of our true manhood.

I have therefore thought it might redound to
our advantage if, for this one night in the year,
we laid aside the consideration of technical ques-
tions and, under the bond of our association, re-
garded ourselves in the light of men and citizens,—
coequal with men in other callings and other citi-
zens interested in the common weal of the State.

This proposition would seem so self-evident as
to require only its simple statement to find a gen-
eral acceptance of its truth and necessity; and
theoretically it probably is accepted by a large

part of the thinking members of our profession who have reflected on the matter at all, but only, I fear, in a general and very indefinite way; and besides, there comes, from time to time, from some of the wisecracks of the profession, a counsel to the younger men and a warning to the older men, to beware of being anything besides doctors. The community, it is said, looks with suspicion on the physician who feels and manifests an interest in anything outside of his calling, to attend, physically, to the sick; that our great and noble art is a jealous mistress and will tolerate no rival in her love and devotion. All of which is regarded as very fine sentiment, no doubt, by those who promulgate it; and, it must be confessed, that the manner in which the practice of medicine is sometimes tacked on to some other vocation like the tail to a kite, is calculated, and very properly and justly, to bring discredit upon the one who thus far fails to recognize the duties of life, either as regards himself or the community in which he lives. Of him and to him we have nothing to say. Being joined to his idol we, wisely, let him alone. But to the army of earnest workers in our profession, who have by their labors and self-sacrificing devotion brought it to the high level which it at present occupies, there is something to be said on the other side, which I believe will lead to their own personal advantage, and that of the profession in general and to the lasting benefit of the State.

Man is distinctively a social creature. In that fact lies his preëminence among created beings, because in that he has the power which no other of the animal creation can use to the same extent, of each working for all and all for each. And not only that, but, under a proper organization of society, it is permitted of one generation to reap and enjoy the fruits of the labors of the generations that have preceded it, and of planting for the harvest of its successors.

So important is this organization for the welfare not only of society itself, but of every individual member of it, that it has come to be recognized as a fundamental law in sociology that a man's first duty is to the State, his second to his family and his last to himself. Now, we are each of us, first, and above all other things, members of this organized society which we call the State, or government, and we are men and citizens before we are doctors, or lawyers, or preachers, or merchants, or laborers in any special field of activity, and our first duty is for the preservation of that organization and its advancement in that direction which shall secure to each member thereof those rights, privileges and opportunities, which shall lead to the greatest good to himself and the community at large. Even from the most selfish standpoint this cannot but seem reasonable and its truth must appear axiomatic in its simplicity.

This, then, being true, even if we have performed our duties faithfully as physicians, we may have yet failed in the first requisite of good citizenship if we have neglected to let our voice be heard in the management of affairs. I am well aware that in this opinion I shall be opposed by a certain and quite numerous class both in the profession and out of it, who hold that so long as a man has fulfilled his professional or business obligations he can, with a clear conscience, fold his hands and thank God that he is not mixed up with the turmoil of politics or public affairs of any kind, and that it is derogatory to the dignity of the profession to allow extraneous matters of a public character to obtrude themselves upon the time and attention of the physician who has already as great a load of responsibility as he can be expected to carry. A moment's reflection will show that this is a very narrow conception of man's duties, and a view of life's responsibilities from a very low plain. Because a man is a physician he is not thereby absolved from his duty as a citizen any more than are those in other callings. There are, of course, certain of these general duties which come in direct conflict with the proper performance of his purely professional activities, but outside of these there is no reason why a physician should hold himself aloof from the affairs which concern the community at large of which he forms a part.

It will be instantly said by some: "You would not have a doctor dabble in politics, contaminate himself with party squabbles and lower himself into the sloughs of party chicanery and corruption?" He who asks such a question can have no proper conception of his duties as a citizen. If all men who follow callings which are classed as respectable, and all men belonging to the learned professions and the cultured class kept themselves away from affairs of State and took no interest in the workings of the government, then indeed would the advance of civilization be in peril. But no man need lower or demean himself by assuming his proper position as a member of the State organization. The discharge of no duty can be degrading, and if politics in this country have become a byword of reproach and a synonym for dishonesty and intrigue, it is because decent, intelligent, and well-informed men have failed to take their part in the proper organization and conduct of the parties representing the different views on matters pertaining to legislation. Of course it is not to be supposed that every doctor should turn active politician, but it should be expected that every citizen who has the good of his country at heart will keep himself well informed on all matters subject to legislation by his representatives and that he will let his opinions be heard and felt when occasion demands.

Time was when the governing class was a distinct and a very small one, and when it was deem-

ed undignified for the medical profession to meddle in such matters. That system may have had its advantages under the old forms of government, but in the grand experiment of self-government, which is being carried out in this western world, the duty of every man, be he physician or not, is to feel and assume his individual responsibility as a citizen in its highest and most important and best function. If that were done there would be no occasion for politics to be synonymous with fraud and dishonesty.

I conceive it to be the duty which the medical profession in this country owes to itself, and to the community, to endeavor to have a larger representation in our various legislative assemblies. Questions relative to public health, sanitation and hygiene are constantly before these bodies for consideration, and for their intelligent action they should have the counsel and advice of those who, by training and education, are best prepared to give it. It cannot be derogatory to the dignity of any profession to thus put itself and its accumulated experiences at the service of the State, and, by so doing, in the proper manner, it elevates itself in the opinion of the community, and, by this added respect, is enabled to work to greater advantage in its own special field of activity.

It was Virchow's scientific work alone, great as that is, which made him president of the last International Congress, but the reputation he had earned as a man of affairs and the ability he has always displayed in dealing with men; and it is the qualities which have made him conspicuous as an Italian senator and statesman, which will make Baccelli president of the next Congress, which meets at Rome. And no physician who heard the oration he so eloquently delivered in Latin at the opening of the Berlin Congress but must have felt a thrill of pride in the thought that this man of culture was a member of the same profession as himself.

Culture is power. It is the power which moves civilization onwards, because it is not only knowledge acquired, but knowledge refined, assimilated and properly adjusted to all other knowledge and to the higher requirements of our more complicated life. And I claim that the more freely we mingle in the affairs which affect and pertain to man in the mass, the more our sympathies and the higher parts of our nature will be elevated and the broader will be the view we take of those things which belong to the daily work of our lives.

When we look to find the highest development of man in his physical and mental attributes we are led at once to ancient Greece. Never in the history of the world has there been presented finer types of men, singly or collectively, than at that period when Athens was truly the center of the world. To the Grecian of that era the welfare of the State was the first thought, and his greatest ambition was to serve her in any capacity.

Greece's philosophers were also her soldiers, and her soldiers her philosophers. Her statesmen were her scholars, and her artists took the javelin or the chisel indifferently as the needs of the State demanded. Sophocles was not only the writer of the greatest tragedies the world has ever known, but was also a senator and served, as a general with Pericles in the Samian war; and Socrates, beginning life as a sculptor, did his duty with conspicuous bravery as an Athenian citizen, at Delium and Amphipolis, and by his personal courage saved the life of Alcibiades at Potidæe. The Grecian of culture touched life on all sides and the result was that he grew in all directions and became a symmetrical being, and intellectually the model for men of all time. The law of intellectual growth and development is not different to-day from what it was in the time of Socrates, Xenophon, Aristotle, Sophocles, Phidias and Pericles and the hosts of others who laid the foundation stones upon which we have builded our structures in philosophy, in literature, in art and morals and to a large extent, our modern science, in which latter alone it is that we can claim any sort of superiority. If we wish to grow mentally we must enlarge our intellectual horizon,—we must open up the ways into the many and various avenues of thought and experience. We must give every faculty its full power of development by furnishing it, as far as in us lies, with a suitable opportunity. That is what was done in Greece on a system more extensive than has ever been tried elsewhere, with the result that the individual as a whole was developed to the farthest extent of his power and capacity. After all, the function of all good government is the protection of the individual, and that is the best government in which, in its truest sense, the individual is allowed the fullest scope for the exercise of all his mental powers. In this system there is much less danger of having "lop-sided men," except as natural deformities. This is, perhaps, an ideal state, a Utopian conception, but if it were attainable in a large measure in a past civilization, we should not despair of its realization in this one which offers many additional advantages for the attainment of that end.

It is, of course, understood that I am not advocating the mingling of the physician in the wrangle of political strife, as we too commonly see it. Much of that is not seemly for any man of refinement and culture, but, if we would change all that, and I conceive that it is our duty to work to that end, we should let the hand of the physician be felt as a citizen in the workings of the machinery of government, whose sole object should be the greatest good to the largest number. But organized Society, such as we would have it, embraces much besides the matters of mere legislation, and there are many other duties and obligations which man owes to the community, in its

minor and subsidiary organizations. The question of education in its broadest sense, the preparation intellectually and physically of the youth for the battle of life, is one of the greatest importance, not only to this, but to all the succeeding generations. The institution of the Church and of societies of various kinds for ethical and moral advancement, and all organized charities for the relief of human suffering, are provinces in which the physician is above all men best prepared by his life training to work with wisdom and judgment. Every school-board should have a representative of the medical profession upon it, and nowhere is the broad humanity of the true physician felt more than in those congregations of men instituted for the cultivation and advancement of his moral and religious nature; and even in our boards of trade he should find his place beside the lawyer and the merchant. And when it comes to public charities there is no one better qualified both by his technical skill and general qualifications to advise than the doctor. In the special matter of hospital management it would appear to the unbiased observer that he was the one *par excellence* to whom should be intrusted the control of all matters pertaining to the care of the sick and the internal management of the hospital generally. And yet there is an opinion current among the lay members of hospital management that the medical man has not enough business capacity to attend to matters which pertain directly to his professional duties, and some hospitals have even gone so far as to make the fact of a man's being a practicing physician a disqualification for service on the board of hospital direction. This is something more than a slur on our profession. It is a hindrance to the proper and best results of hospital treatment, and has led in many instances to an enormous waste of monies that were needed to carry on the legitimate functions of a hospital. It must be confessed that we of the profession are largely responsible for this state of feeling towards us. We have neglected to make ourselves felt as men of affairs and it has reacted upon us in hampering our power for good in our own special line of work. There was never a greater mistake than to suppose that because a man is engaged in the practice of medicine he has thereby lost his power of judgment or faculty of drawing conclusions from facts. It may be true that many, if not most physicians do not manage their own business affairs to the best advantage—for themselves; but that is more largely because of their liberal-mindedness and charity than for want of capacity. It is true they are not schemers, apt in the laying of plans on the hazard of success, indifferent as to the general effects and the final results, and are not skilled in the process of over-reaching, which seems, in the eyes of many, to constitute true "business ability," the "ability" too prevalent on the mart and in the street. The training of

their profession has taught them caution, has taught them to avoid haste in drawing their conclusions until all the data are in, but has given them, withal, the courage to act firmly and promptly on their convictions when they are once formed. Wherever a special pleader is wanted, wherever a champion for partisan aggrandizement is in demand, where bigotry is to be upheld, it must be confessed, that the training of the medical man in his earnest and constant search after the truth but badly fits him for a position of prominence. He cannot compete in these fields with others whose training has been otherwise.

It has been the custom in certain quarters to consider the doctor more than ordinarily deficient in executive ability, as lacking in the power to deal with masses of men and with diverse and widely separated interests. In refutation of that charge we can point with pride to the management of the medical departments of the army and navy throughout the civilized world. In no point of organization or efficient working has the medical department of either arm of the service been behind that of the line, and there was developed, during the late civil war, an amount of ability in the medical staff, which, if it had been surrounded by the glamour of arms, would have made many of them heroes of renown ranking with the first. Wherever courage, coolness, and the shifts of expediency, and a commanding example are needed, we have a representative of our profession. In the ice-locked regions of the north we have a Kane, and an Ambler; and in the wilds of Africa a Livingstone, an Emin and a Parke. And indeed, everywhere where the faculty to organize or the ability to execute is needed, as in the management of our colleges, libraries and museums, we find it forthcoming in the medical man. And yet a collection of second or third-rate lawyers and ordinary tradesmen will assume that in the management of a hospital the men who do the work for which the institution is founded, and without whom it would be a mere pile of bricks and mortar, and who are more conversant with its needs and requirements than any other men could possibly be, are incompetent advisers in its direction. In the conditions of society at one time existent in Europe it was questioned whether a physician might be a gentleman, but in this country, in some minds, there seems to be no doubt as to his being an idiot. And for this general and current opinion I claim that we, as members of the profession, are to blame. If we mingled more in the affairs of common life, and took a more active part in the management of its concerns, the capacity of the medical man to deal with matters other than those purely professional would soon be impressed upon the community, and our opinions on those matters which are of general interest would have the respect and weight given to them which they are deserv-

ing of. To place ourselves, as individual members of a learned, liberal and scientific profession, upon such a plane, I conceive to be a duty we owe to that profession and the Nation, and to ourselves.

But aside from these general obligations and responsibilities as citizens, there are other opportunities of widening our minds and increasing our breadth of view. The day has gone by when, unless he would lose caste in the community, a doctor must be nothing beside a doctor, with his knowledge limited to what he knows of diseases and the remedies therefor. That tradition should have passed away with the gold-headed cane and creaky boots which were the outward token of the physician fifty or more years ago. The barriers between special and general knowledge have been overborne by the coming of the higher culture which finds the necessity for an extent of accomplishment which is not attained by knowing everything of something, even were that possible. To know something of at least a great many things that are worth knowing, is the surest road to knowing everything that can be known of any one thing. Human knowledge on any one subject is not so circumscribed that it cannot be illuminated and made clearer by the light thrown upon it from the knowledge of other subjects outside. The man who makes clay pipes can make them better if he knows something of the laws of chemistry and physics, and can convert them into objects of beauty if he has cultivated his æsthetic sense. Of all the so-called liberal professions I think that of medicine is the only one that can be properly thus named. The law is hampered by statute and precedent, and the Church has no existence if not based upon tradition. Ours is the only one which bids defiance to tradition, boldly questions authority and sets precedent at naught. There is absolutely no intellectual restraint upon us. Our goal is Truth, and to attain to it we may follow any path that seems open and inviting. And as all roads were said to lead to Rome, so I think all knowledge sends its quota to the practitioner of the healing art. Nothing can come amiss to the scientific practitioner—all knowledge can, in one way or another, be made available. It is not only wise, then, but our imperative duty to open up as many of these avenues of culture and wisdom as is possible.

In conversing with a medical man, some time ago, on this topic, he said he did not like doctors for companions because they were so narrow. I disagreed with him *in toto*. There are, of course, doctors and doctors, and, particularly under our American methods of education, there are, unfortunately, a large number of physicians, who are such in name only. But even under our pernicious system, I claim that the average doctor is the peer in intellect and culture of the average man in any other profession. But what I claim

for, and demand of him is that, on account of his better advantages and more enlarged opportunities, he should be superior. "But," the thought instantly arises in the minds of many among you, "we are so engrossed in the toil of our strictly professional activities that we have not the time for the pursuit of this culture." My friends, time will always be found to do the things that we earnestly wish to do. The great difficulty in this case is, that we fail to see the desirability and need of it; and if I shall have been able through this presentation of the case to arouse in you some serious thought on the subject, I shall consider that my speaking has not been in vain. I hold that a man who knows medicine and nothing else cannot know that as it ought to be known, and I am not one of those who deem it derogatory to a member of our profession that he should, even openly, vindicate his claim in other fields of culture, whether it be in science, literature or art. In other special fields of intellectual activity it is by no means uncommon. Because Gladstone is one of the greatest statesmen of the age it does not lessen the value of his opinion as an authority on Homer, and a single review by him of a work of fiction is sufficient to give it the widest popularity. Professor Tyndall goes home from a lecture on the latest discoveries in science at the Royal Institution, to write an article on the Irish question, and Mr. Ruskin—well, it would be hard to say what Mr. Ruskin has not written on—and entertainingly and well. The medical man has just as much time to give to the cultivation of these outside subjects, apart from his strictly professional work, as other men, and when we once have the sincere desire for it, the opportunity will not be lacking. It is true that our profession is considered the least regulated of any. Other men are considered to have some time which they can call their own. Not so with the doctor. And yet, even in so exacting a field of labor as ours, a great deal may be accomplished by a proper system. With us, as with other men, the busiest is always the one who has the time to do the thing to be done. It will not be supposed for an instant that I am advocating general culture at the expense of strictly professional study. That should always come first and, with every conscientious man, will have primary consideration always. But the human mind is not a machine that can be worked in one groove all the time, and its best and most satisfactory rest is change. It is said of John Stuart Mill that when he took a vacation he wrote an article on political economy, and in fact all his enormous production in the fields of politics and sociology was done outside of his hours at the Indian Office, which were as exacting as those of any Government office in this country. Lord Beaconsfield, whose career as a politician and diplomat was as brilliant as it was remarkable, is said to have remarked on one oc-

casion that when he wanted to read a novel he wrote one. It is these hours of freedom from professional work and care which are so necessary for the maintenance of clear perception and sound judgment that can be advantageously given to the cultivation of these tastes for general and comprehensive knowledge—tastes that have characterized the vigorous and advanced minds of all ages. There has been in those minds an aspiration for knowledge and a desire for development which has surmounted all obstacles, and they have not grown in one direction at the expense of another. The mind, like any other organ of the body, is rendered stronger and more supple by constant and regular exercise, and is weakened or disabled by irregular, unsystematic or forced action. It is worry and not work which wears out, and to have some congenial occupation into which to divert the mind when it is liable or likely to be overburdened with work, is the best safeguard the brain worker can have. That man is always safest who has a hobby—and who does not trifle with it. A hobby conscientiously pursued, as every genuine hobby should be, is always a serious matter—to the one who follows it, and in that seriousness lies its power for good to him. It is the one thing in the world which he values more than time or money; and, in the rush and crush of modern civilization, anything that restrains avarice or clogs, even temporarily, the whirling wheels of time so as to allow a man to think of something which does not lead to material gain, is a boon to society as well as a salvation to the man.

I am always inclined to be suspicious of a man who has no hobby and who takes no interest in anything outside of the narrow field of labor which has by accident fallen to him. And of all men the doctor is the one who needs such diversion most. He less than any other, should be narrow and restricted in his resources, or allow himself to fall into the slough of despond, or sink beneath a load of responsibilities. There are so many paths leading outward that hardly any taste, but can find some congenial pursuit. If it be that books do not attract, there are paintings, etchings, engravings, bric-a-brac and other object of art and virtue, the study of some favorite branch of science; the practice of some art—as drawing, painting, or sculpture, or some literary pursuit, as the writing of fiction, or of essays on social, literary and scientific subjects, or poetry, when that gift is in possession; the practice of the art of music, vocal or instrumental; in fact, there can be no occupation of the mind which is serious and requires the acquisition of some special knowledge, or which cultivates the finer qualities of our nature, but, in one way or another, can be made of practical utility in the practice of our noble calling. For, let the fact sink deep into the hearts of us all, we do good to

our patients as much by what we *are*, as by what we know of their diseases. The man helps quite as much as the physician, oft-times more.

The history of our profession is not without brilliant examples of such cultured men—of men who, in addition to high professional attainments, have done most acceptable work in other fields of intellectual labor. Mr. Seymour Haden is not any the less a surgeon of ability, because he is the most renowned etcher since Rembrandt, and it was during one of those forced vacations occasioned by overwork that he published in Paris that set of plates which, actually, in one day made him famous; and Sir Henry Thompson is quite as well known in the literary and artistic circles of London as in the surgical society.

In this country we are always proud to mention among others in this connection our own beloved and inimitable Holmes, and Weir Mitchell, who, not only is a great authority on nervous diseases, but ranks high as a general literateur and poet. The list could be largely extended, and you can each call to mind men of your own acquaintance who either have done, or are capable of doing most creditable work in fields which are only remotely connected with the practical art of their profession.

But if I were called upon to designate the man, who, more nearly than any other that I have known, fills my conception of the ideal physician, I would mention the name of one who is still living and passing his declining years in dignity and peace among the beautiful hills of Southern England. There is probably no man within the sound of my voice to whom the name of William Bowman is unfamiliar, certainly no man who studied medicine twenty or thirty years ago. His researches in anatomy and physiology in his earlier years placed him in the front rank in both of these departments, and his achievements in general surgery, before he was actually forced into ophthalmology by his acknowledged superior skill in that specialty, are such as to give him prominence in that line, and in the pathology of that period his name will always be found associated with thoroughly accurate and scientific investigation. There was no man of his time who, by thorough training in the principles of medicine and surgery, actual knowledge of anatomy and physiology, was better prepared than he to take the part he did in founding modern ophthalmology. When the genius of Helmholtz threw the light of the ophthalmoscope upon the world it revealed three men, who, each in his different way, was destined to have his name associated with ophthalmology for all coming time. One was the great clinician at Berlin, the youthful von Graefe; another a physiologist in Holland, the late lamented Donders, who laid the foundation for our clinical optics; and the other was William Bowman, surgeon at the Moorfield

Ophthalmic Hospital in London. These three men were not only the founders of the most advanced and scientific department of medicine, but intimate personal friends in the most ideal way. The work of the two first named is more widely and generally known than that of Bowman, perhaps, for they both wrote extensively; but the lasting impress of Bowman upon the men of his time, and upon succeeding generations, is certainly equal to that of either of the others, and that, as much by the personal character of the man, as by the ability of the surgeon and teacher. No one who has stood, as I have, day after day, by his desk at the great clinic at Moorfield's, and heard his careful and logical analysis of cases, and the lucid explanation of complicated conditions, and has followed him to the amphitheater, and seen him operate with skill of brain and deftness of hand, but must have been impressed with the fact that here was a man who had not only cultivated all his faculties widely, but had them under his perfect control. He must have felt instinctively that this special ability was based upon a broad culture, and that back of it all there was the well-rounded character of the man.

When I was in England, something more than a year ago, it was my pleasure to meet him again on his invitation at his charming country place in Surrey, and the memory of those hours will always remain among the most treasured recollections of my life. It was one of those exceptionally lovely August days, which sometimes come in that English isle, when the brightness of the sky and the rich greenness of the fields combine with the softness of the air to make the perfection of climate. We talked of many and various things, and there was revealed to me in this discourse, more than ever before, the cause and reason of his greatness. A few years before his queen had honored herself by conferring a baronetcy upon him, but long before that the profession to which he had given the best labor of his life had ennobled him with its enduring trust and reverence. He had retired from the active practice of his profession, but his interest in all things pertaining to its advancement was as earnest and eager as in those years when he was at the head of ophthalmology at the world's capital. As we sat there that balmy afternoon on the grassy slope facing the south Downs, with a silvery strip of sea stretching beyond, on which ever and anon the sunshine showed the glint of a passing sail, the discourse drifted into diverse channels, breadth of view and extent of general knowledge, which made him the man he was. He talked of the political situation in the United States with which he was familiar, of our form of government, its strength and its defects, without cynicism, or the pessimism, which so frequently mars the latter days of some otherwise great men. In a modestly apologetic manner, because he

thought that my interest was genuine, he went over the history of his earlier medical education and told me how his choice of the study of medicine, was an accident caused by an injury to his thumb while a school-boy at Birmingham. He was attended by a Mr. Hodgson, a celebrated surgeon of that city, and was so charmed by the personality of the man and the skill with which he treated him, that after the custom of that day, he asked to be apprenticed to him, and very soon afterwards entered the Birmingham Hospital. The character of the man was here foreshadowed in the youth. He showed me afterwards in the library the notebooks he made during those years of hospital work and study with the carefully detailed clinical histories of the cases and the accurate drawings of the pathological conditions found, which could almost be said to represent a complete history of the surgery and pathology of that day. For several years, I think he told me, he either made, or was present at every autopsy during his stay in the institution. What a groundwork on which to build the enduring professional career that followed; and what a lesson in patient industry for the medical student of our day, and what a rebuke to the aspiring specialist of this era who ventures upon his work with only the merest smattering of the general principles of either physiology or pathology and with no experience in the practice of general surgery. But mingled in with these were the sketches which he had made of the places of interest he had visited during his vacations, for he loved to enlarge his mind with travel and to mingle with men of pursuits widely separated from his own. Among his friends were all the literary, artistic and scientific men of prominence of his time.

He talked of Graefe and of Donders, who went from his house only a few months before with the illness that finally led to his death, of the medical men of the past and the younger and more promising men of to-day. His thought had reached out in every domain in which intelligent humanity holds any interest, whether of men, of books, or of affairs. And he was at home in all matters pertaining to literature, art and science. And as I regarded this man, passing thus, in dignified repose, his evening of life, amid the flowers which he had gathered from all quarters of the globe, and which he attended with such loving hands, I felt it the fitting rounding up of a life as nearly ideal as our humanity can offer, and I tried to take the lesson to my heart, that I now offer to you, that the highest usefulness in life can be realized only by a cultivation of all the faculties of our minds on the broadest scale and in the most liberal manner.

But aside from these general considerations and in addition to the benefit to flow to the community from our increased possession of human sympathy and mental enlargement, there comes

to the individual by a cultivation of those higher faculties, a respect for himself and an increase in his sources of pleasure, and a widening of his capacity for enjoyment which nothing else can bring. To the man with a broadly cultivated mind there is no time or place, with freedom of mind and body, when he need suffer from *ennui*. He is ever prepared, alike, for work or recreation. To him the world offers always its best, and it is to be had for the taking. To him Nature lays bare the beauties hidden from the eyes that have not learned to see. The artists of all past times have wrought their ideas into lasting forms for his pleasure, and the accumulated literature of all ages is at hand for his instruction and entertainment. The processes of civilization as seen from his higher vantage ground have a unity, a relation and a connected purpose to an end which are in gratifying and hopeful contrast to the workings of the world as seen from the lowlands of narrowmindedness and desponding and despairing wonderment at the apparently purposeless scheme of the universe.

But, my friends, in the garment of life which we wear for this brief season here upon earth, there must needs be not only the warp of joy but also the woof of sorrow. The sun of prosperity and peace shines not always, and in the lives of all of us there are periods when the dark clouds of despondency cast themselves athwart his smiling face. In the course of nature there must come times when the sky is no longer blue, and the sunlight has lost its brightness; when the color has faded from the flowers and there is no music in the laughter of children; when affliction takes up its abode on our hearth-stone, and when grief becomes our constant companion; when life means only the beginning of death; when we stand alone in this vast universe with no human hand to sustain and the arm of God seems afar off. It is then that we must look within for that power which must hold us up if we would not fall. It is then that our higher manhood, with its understanding widened by culture and deepened by sympathy, and the aspirations of that which makes us what we are, give us glimpses of what the awful Mystery may mean, and the light of Duty shines upon the path we are to follow. It is that only which can save us from despair and give us the courage to live and to do as faithfully as we can the work that is at our hands to do. The world wants not less now than it has ever done, that courage and that faith which can only come from the liberal culture of the nobler and higher elements of our nature, and nowhere can they work for greater good than in the daily duties of the profession which it is our honor to follow. There is need not only of physicians, but men; and the nobler the man the greater the physician.

ORIGINAL ARTICLES.

A PLEA FOR EARLY VAGINAL HYSTERECTOMY FOR CANCER OF THE UTERUS.

Read in the Section of Obstetrics and Diseases of Women, at the Forty-first Annual Meeting of the American Medical Association, held in Nashville, Tenn., May, 1896.

BY FRANKLIN H. MARTIN, M.D.,

PROFESSOR OF GYNECOLOGY, POST-GRADUATE MEDICAL SCHOOL;
SURGEON TO WOMAN'S HOSPITAL, CHICAGO.

It is, at present, a generally conceded fact that cancer can be permanently eradicated from the human body if the parts of primary development and subsequent invasion can, early in the progress of disease, be absolutely separated and removed from the surrounding normal tissue. This implies that the operation for cancer which will go the farthest beyond the diseased limits, is the one most liable to accomplish absolute removal, consequently the one by which the most satisfactory curative results must be expected. With this fact well established, we can have no hesitancy in making the assertion that the operation which will obtain the best ultimate results in cancer of any portion of the uterus is the one which will accomplish its total removal, together with as much of the tissue which lies in close proximity to it as can be removed without unduly increasing immediate mortality.

Hence my first proposition is: *Vaginal hysterectomy is the most justifiable surgical procedure we yet know for the cure of cancer of the uterus.*

A second fact which is as incontrovertible as the first, and one made obvious from the very nature of the first, is that the earlier cancerous tissue is removed in the process of its development, the greater are the probabilities of a non-return of the disease. Hence my second proposition:

Vaginal hysterectomy should be attempted for the cure of cancer of the uterus, at the earliest possible moment after the disease is diagnosed.

Thus it shall be the effort of the author of this paper not only to convince his hearers that vaginal hysterectomy is the most justifiable operation for cancer of any part of the uterus, but that it is an operation which should be resorted to early in the progress of the disease.

The facts to be proven in support of these propositions, in order to make them acceptable, must be as follows:

1. That vaginal hysterectomy will remove the entire disease in cancer in any portion of the uterus, in a greater proportion of cases than will any other surgical procedure now recommended.
2. That vaginal hysterectomy for cancer of the uterus will enable an operator to go farther beyond the diseased tissue into healthy tissue, than will any other surgical procedure now recommended.
3. That vaginal hysterectomy is a more ideal surgical operation, and leaves the remaining tis-

sues in a less favorable condition for the return of the disease, than will any other surgical procedure now recommended.

4. That vaginal hysterectomy for cancer of the uterus will give in the future an immediate mortality sufficiently low to make it preferred to all other surgical procedures.

1. Will vaginal hysterectomy remove the entire disease in cancer of any portion of the uterus in a greater proportion of cases than will any other surgical procedure?

Let us first examine the uterus, and then the other possible operations which might possibly be selected.

The uterus is divided arbitrarily into two portions, the body and the neck. The body, which represents two-thirds of the entire organ, is supported and suspended upright in the centre of the pelvis by numerous connecting bands, with its two branching arms of tissue, which have a direct continuity with itself, reaching out into the folds of the peritoneum from either side, all covered with peritoneum, all closely associated with other important organs, the rectum behind, the bladder in front, the ovaries on either side, the intestines above and the vagina below, and with an elaborate connecting network of veins, arteries, lymphatic vessels and glands distributed throughout its entire structure.

The neck of the uterus, which in anatomical structure is a direct continuation of the uterus and represents but one-third of that organ, is suspended from its uterine attachments above into the vaginal tube below, where it is free from all direct tissue communication with its surroundings except as it is supplied from the body and the vaginal attachment above.

The operations which may be urged as possible rivals of vaginal hysterectomy: the cauterization—chemical, actual, Paquelin or electro—curetting, amputation and abdominal hysterectomy. When it is remembered that at this stage of the paper, we are considering whether vaginal hysterectomy will remove the entire disease in cancer of any portion of the uterus in a greater proportion of cases, than will any of the above named operations, it becomes obvious at once, that the only one which can compete with vaginal hysterectomy at all in this respect is abdominal hysterectomy. It must be admitted, however, that abdominal hysterectomy, when performed so as to remove the entire uterus, including the cervix and Fallopian tubes, will accomplish the same end in the same proportion of cases as will vaginal hysterectomy; but the operation has other disadvantages which are obvious to many which render it inferior to vaginal hysterectomy, and which will be touched upon under the heading of mortality. I do not care to bring an array of arguments to prove obvious facts. I will therefore pass to our second consideration.

2. Will vaginal hysterectomy for cancer of the uterus enable an operator to go farther beyond the diseased tissue into healthy tissue than any other surgical procedure?

The cautery can be employed in these cases to follow out the limits of the disease, if it is confined to the cervix, and possibly the lower portion of the body and any encroachment on the vaginal walls which has not involved deep underlying tissues. Much can be accomplished in cancer of the cervix with this remedy, but when the disease begins to involve the body of the uterus, the dangers of subsequent hæmorrhage, from the imperfect closure of those large vessels which must be destroyed in reaching those portions, makes one tremble for the result. When cautery is employed to its fullest extent, however, we are still far short of what is accomplished in total removal of the uterus.

Curetting.—With curetting, from the nature of the instruments employed, we do not expect to go any great distance beyond the friable tissue made so by the march of the disease. Dull curettes do not remove, readily, healthy tissue which it is necessary to get into beyond the diseased portions, and sharp ones possess no remedy for the hæmorrhage they produce. So, with this remedy, we cannot hope to go far beyond the limits of the disease, and never approach anything like the amount of tissue removal that is accomplished by hysterectomy.

High Amputation.—High amputation of the cervix can accomplish the removal of considerable tissue if it is properly performed. The vaginal mucous membrane can be removed to the extent of $\frac{1}{2}$ to 2 inches from the vaginal attachments. Ligatures may transfix the base of the broad ligament at least an inch away from the uterus, and a corresponding amount of tissue be removed. The amputation may extend well into the body of the uterus, and with great care to suppress the hæmorrhage, the fundus may be pretty well approached. Here, however, we reach the limit of our possibilities with high amputation.

Abdominal Hysterectomy.—With abdominal hysterectomy the ovaries and the tubes can be removed with the body of the uterus; and by performing a very unusual abdominal hysterectomy the cervix may be included with the body. It would not be practicable, however, for one to remove very much of the vaginal mucous membrane.

Vaginal Hysterectomy.—With this operation the whole upper portion of the vagina to the extent of $1\frac{1}{2}$ or 2 inches from its cervical attachment can be severed at the outset, to be included in the tissues to be removed. After separating well the bladder from the uterus, and carrying the separation well to the side, so as to certainly dissect the ureters from the broad ligaments, the base of the broad ligaments can be ligated well

out to their pelvic attachments, by first drawing the cervix forcibly to the opposite side. When the base of one broad ligament is ligated and the uterus well drawn down upon that side, the large broad ligament lock forceps (Byford's pattern) can be adjusted to the remaining portion of the ligament, and at such a distance from the uterus as to leave the ovary and tube attached to the latter ready to be removed with the diseased tissue. When one broad ligament is severed, the uterus can, ordinarily, be delivered. It is an easy matter then, by commencing to ligate at the upper margin of the broad ligament, which remains intact, to get well away from the uterus, and, by carefully ligating and severing by sections, each ligature being crowded farther away from the uterus, it is possible to get the ligatures, which are applied to the base, well out to the side of the pelvis. To summarize then, without unduly complicating the operation we may, when necessary, remove the following tissues with vaginal hysterectomy: the uterus entire, the upper portion of the vagina for a distance of 2 inches from its uterine attachments, both broad ligaments to a distance of 1 to 2 inches from the uterus, both Fallopian tubes and both ovaries.

Compare with this, what is accomplished with the most thorough cauterization, curetting, or high amputation which can be made. It will be found after these operations, that we have remaining, the fundus of the uterus, the Fallopian tubes, the ovaries and much cellular tissue surrounding them which must be removed in the most ordinary vaginal hysterectomy. The points of comparison are so apparent, and the comparison so favorable to vaginal hysterectomy under this heading, that I feel it superfluous to go into further detail.

3. Is vaginal hysterectomy a more ideal surgical operation, and does it leave the remaining tissues in a less favorable condition for a return of the disease? This interrogation seems to me somewhat axiomatic. I shall, therefore, employ but little time in its discussion.

With vaginal hysterectomy an organ in its entirety is removed. With curetting, cauterizing, or amputation, only a portion of an organ is removed and crushed, cauterized, or cut surfaces of a tissue remains to be cared for which previously had a direct continuity with the diseased tissue. With vaginal hysterectomy satisfactory and safe stumps are secured which contain all bleeding-vessels of importance and also all channels through which absorption of infectious material may occur. With curette, cautery or amputation no regular stumps are secured, and large ugly surfaces of tissue are left exposed which stand ready to absorb infectious matter. To the extent, too, that the stumps are imperfect to that extent is the security against hemorrhage imperfect. With vaginal hysterectomy the facil-

ities for drainage are almost imperfect, while with the other operations, the very nature of the remedy employed against hemorrhage, viz.: packing or tamponing may oftentimes interfere with satisfactory drainage.

The above remarks do not apply to abdominal hysterectomy. With this operation, however, we have an additional complication of an abdominal incision, and the responsibility of treating two openings into the peritoneal cavity instead of one as in vaginal hysterectomy. The difficulty of securing the broad ligaments in their entirety from an abdominal incision is much greater than when they are handled from below.

4. Will vaginal hysterectomy for cancer of the uterus give in the future an immediate mortality sufficiently low to make it preferable to all other surgical procedures?

I shall leave the subject of abdominal hysterectomy for cancer out of my calculations here because we have seen that it is really not an appropriate operation for the difficulty under consideration, and also because of a recognition of this fact, in this connection it has been almost entirely abandoned.

In discussing this question I shall take the liberty of assuming, that the older operation—curetting, cauterization and amputation—have for years been out of their experimental stage, while with vaginal hysterectomy, recent statistics only are of any value in determining the future of the operation.

With partial removal of the uterus, or high amputation in the hands of expert American operators, recently reported, an immediate mortality of more than 4½ per cent. has been the result. These represent the fifty-five cases reported by Reamy in 1888, with two deaths or a mortality of 3.6 per cent., and of thirty cases reported by Reeves Jackson in January, 1890, with two deaths or a mortality of 6.6 per cent. This mortality seems rather high for an operation which at its best is considered but a conservative method for treating a grave disease. It is considerably lower, however, than we get from our foreign brethren, for instance: Vernenil in January, 1889, records twenty-two cases, with two deaths, or a mortality of 9 per cent. Hofmeier's table of ninety-six Berlin-cases, gives a mortality of 7.4 per cent. Thus, with the best statistics which can be obtained for the so-called conservative treatment of cancer of the uterus, we must grant a mortality of 3.6 per cent., while with the two best records, a mortality of more than 4.5 per cent. is obtained. In the face of these statistics from expert operators, can I be said to be unfair, if I assume the legitimate mortality of partial removal of the uterus to be at least 5 per cent.?

What is the present mortality of vaginal hysterectomy? The published statistics of this op-

NAME OF OPERATOR	AGE	DISEASE	MANNER OF OPERATING	DATE	SEX	CAUSE OF DEATH	ULTIMATE RESULTS
1 H. J. Boldt, New York City	39	Epithelioma of cervix	Ligature to bridg ligatures	Apr. 1891	R.		No recurrence
2	51	"	"	May 1891	R.		No recurrence
3	54	"	"	June 1891	R.	Ink. wt.	No recurrence
4	56	"	"	July 1891	R.		No recurrence
5	42	"	"	Aug. 1891	R.		No recurrence
6	49	"	Lig. on one side clamp on other side	Jan. 27 1892	R.		No recurrence
7	49	"	Clamp	Jan. 27 1892	R.		No recurrence
8	37	"	"	Mar. 4 1892	R.		No recurrence
9	45	"	"	Mar. 4 1892	R.		No recurrence
10	58	Epith. cerv. and body	"	Feb. 4 1892	K.		No recurrence
11	35	Cancer cervix	"	Feb. 14 1892	K.		No recurrence
12	34	Cancer body & I. ovary	"	Feb. 14 1892	K.		No recurrence
13	60	Cancer body & I. ovary	"	Feb. 14 1892	K.		No recurrence
14	60	Cancer cervix	"	Feb. 14 1892	K.		No recurrence
15	45	"	"	Feb. 14 1892	K.		No recurrence
1 W. T. Ball, New York City	45	Epithelioma cervix	Ligature	Jan. 27 1892	R.		No recurrence
2	35	"	"	Nov. 27 1892	R.		No recurrence
3	36	"	"	Aug. 27 1892	R.		No recurrence
4	41	Prolapse uterus	"	Aug. 27 1892	D.	Shock	No recurrence
5	46	"	"	Nov. 27 1892	R.		No recurrence
6	46	"	"	Nov. 27 1892	R.		No recurrence
1 H. T. Byford, Chicago, Ill.	70	Cancer cervix	Ligatures	Aug. 1892	R.		No recurrence
2	57	Papilloma cervix and body	and forceps	Dec. 1892	K.		No recurrence
3	47	Fibrosarcoma of uterus	"	Jan. 4 1893	R.		No recurrence
4	55	Adenoma of uterus, cancerous degeneration	"	Mar. 4 1893	R.		No recurrence
5	45	Three small fibroids	"	Mar. 23 1893	R.		No recurrence
6	25	Cancer cervix	Forceps and ligatures	May 1893	R.		No recurrence
7	42	Fibromyoma	Ligatures	Jan. 1893	K.		No recurrence
8	52	Sarcoma uterus	and forceps	July 1893	K.		No recurrence
9	50	Carcinoma cervix	"	Aug. 1893	K.		No recurrence
10	45	Sarcoma	Forceps	Aug. 1893	K.		No recurrence
11	45	"	"	Aug. 1893	R.		No recurrence
12	53	Carcinoma cervix	Ligatures and forceps	Mar. 1893	R.		No recurrence
13	51	"	"	May 1893	R.		No recurrence
14	35	"	"	May 1893	R.		No recurrence
15	50	Sarcoma	Forceps	July 1893	R.		No recurrence
16	41	Carcinoma of cervix	"	Aug. 1893	R.		No recurrence
17	43	Fibroids of corpus	Ligatures	Nov. 1893	R.		No recurrence
18	53	Cancer of cervix	"	Dec. 1893	R.		No recurrence
19	38	"	"	Mar. 1894	R.		No recurrence
20	24	Abscess	Forceps and ligatures	Mar. 1894	R.		No recurrence
1 H. C. Coe, New York City	55	Epithelioma uterus	Clamp	Mar. 1894	R.		No recurrence
2	20	"	"	Jan. 1894	R.		No recurrence
3	48	Proclitidia	Ligatures	Sept. 1894	R.		No recurrence
4	70	Adenoma carcinoma corpus uterus	Clamp	Feb. 1894	R.		No recurrence
5	50	Cancer corp. uterus	"	Dec. 1894	R.		No recurrence
6	40	Epithelioma cervix	"	Feb. 1894	R.		No recurrence
7	30	"	"	Feb. 1894	R.		No recurrence
8	40	"	"	Feb. 1894	R.		No recurrence
9	44	Cancer of uterus	Ligatures	Feb. 1894	R.		No recurrence
1 A. B. Carpenter, Cleveland, O.	44	Cancer of uterus	Clamp	Feb. 1894	R.		No recurrence
1 A. Palmer Dudley, New York City	4	Epithelioma cervix	Ligatures	Dec. 1894	R.		No recurrence
1 E. C. Dudley, Chicago	30	Carcinoma	Silk ligatures	Apr. 1894	R.		No recurrence
2	54	Sarcoma	Forceps	Nov. 1894	R.		No recurrence
3	30	Carcinoma	"	May 1894	R.		No recurrence
4	30	"	"	Mar. 1894	R.		No recurrence
5	57	"	"	Jan. 1894	R.		No recurrence
6	30	"	"	Aug. 1894	R.		No recurrence
1 E. W. Cushing, Boston	60	Malign. adenoma corp. uterus	Clamp	June 1894	R.		No recurrence
2	43	Carcinoma cervix	"	Nov. 1894	R.		No recurrence
3	60	"	"	Dec. 1894	R.		No recurrence
4	29	"	"	Jan. 1894	R.		No recurrence
5	28	"	"	Mar. 1894	R.		No recurrence
6	4	"	"	Mar. 1894	D.	Embolic infarct when in full cervical stage	No recurrence
7	41	"	"	May 14 1894	R.		No recurrence
8	25	"	"	May 28 1894	R.		No recurrence
9	25	"	"	Dec. 1894	D.	Fracture of tibia & pelvis	No recurrence
10	50	"	"	Oct. 4 1894	R.		No recurrence
11	40	"	"	Feb. 1894	R.		No recurrence
12	3	Cancer cervix	"	Mar. 2 1894	R.		No recurrence
13	3	"	"	Mar. 2 1894	R.		No recurrence
1 Geo. J. Engelmann, St. Louis	30	Carcinoma fundus	Frensd method	Mar. 1894	R.		No recurrence
2	30	Cancer cervix	Ligatures	Jan. 14 1894	R.		No recurrence
3	30	"	"	Jan. 14 1894	R.		No recurrence
4	30	"	"	Feb. 28 1894	R.		No recurrence
5 S. C. Gordon, Portland, Me.	52	Epithelioma	Ligatures by catgut	April 1894	R.		No recurrence
6	52	"	"	April 1894	R.		No recurrence
7	45	"	Silk ligatures	April 1894	D.	Pelvic infection	No recurrence
1 Rufus B. Hall, Cincinnati, O.	40	Cancer of cervix	Clamp	Feb. 3 1894	D.	See footnote	No recurrence

NOTE—Died tenth day from hæmorrhage. The patient was doing exceedingly well up to three minutes before death occurred.

NAME OF OPERATOR.	AGE.	DISEASE.	MANNER OF OPERATING.	DATE.	R.E. SUFF.	CAUSE OF DEATH.	ULTIMATE RESULT.
1 Edward J. Ill, Newark, N. J.	44	Cancer of cervix.	Ligatures.	May 30, '85, R.			Return and death in 20 mo.
1 Charles N. Dixon, Jones, New York.	60	Carcinoma.	"	Jan. 4, '87, R.			Well two years after.
3	49	"	Partial extirpation.	April 15, '86, R.			Died 6 mos. after operat'n
4	45	"	Ligatures and forceps.	May 30, '86, R.			Well.
5	52	"	Forceps.	Nov. 3, '88, R.			Well.
1 J. Tabor Johnson, Washington, D.C.	36	Cancer uteri.	Ligatures.	April 25, '89, R.			Well. [turn of disease.
2	43	"	"	1888.	R.	Peritonitis, 6th day.	Died 1 year later from re-
3	52	"	Clamps.	1887.	D.	Peritonitis, 3d day.	
4	52	"	"	Dec., '88, R.			Died in 2 yrs. from return.
5	56	"	"	Nov., '88, D.		Shock.	
1 H. Craff, Eau Claire, Wis.			"	1890.	R.		
1 Paul F. Mundé, New York City.	50	Car. cervix and vagina.	Silk ligatures.	Jan. 30, '85, R.			Unknown.
2	55	Epith. cervix.	"	Feb. 2, '87, R.			
3	49	" and vagina.	"	Feb. 23, '87, R.			Thot to be perman't cure.
4	31	"	"	July 16, '87, R.			Recurrence in 2 mos.
5	34	"	"	Oct. 10, '88, R.			" 3 mos.
1 E. E. Montgomery, Philadelphia.	40	"	Clamp forceps	April 10, '88, R.			In good health.
2	46	Carcinoma body.	"	Feb. 14, '89, R.			Unknown.
3	48	Epith. cervix.	"	July 15, '89, D.		Periton., 14th day.	
4	48	" body.	"	Oct. 4, '89, R.			Doing well.
5	40	Fibroid.	"	Jan. 20, '90, R.			
1 H. O. Marcy, Boston.	43	Cancer.	Ligatures.	July, '87, D.		Shock.	
2		"	"	Sept. 20, '85, D.		Death in 12 hours from hamorrh.	Operated upon by Dr. August Martin, of Berlin, while visiting the U. S.
3		Interstitial myoma.	"	Sept. 20, '87, R.			
4		Adenoma.	"	Sept. 21, '87, R.		Recovery slow.	
1 Franklin H. Martin, Chicago.	46	Cancer cerv. and body.	Clamp and ligatures.	April 24, '89, R.			Still well.
2	45	Cancer cervix.	"	Dec. 26, '89, R.			Well.
3	36	"	"	Jan. 14, '89, R.			Well.
4	30	"	"	Feb. 19, '89, R.			Still Well.
5	34	"	"	April 18, '89, R.			Cancer returned.
1 Matthew D. Mann, Buffalo.	27	"	Ligatures.	Feb. 18, '88, R.			Death in 8 mos. from ret.
2	52	supravag. port'n	"	April 22, '88, D.		Peritonitis.	[a year
3	24	cervix.	Clamp.	June 18, '88, R.			Relapse and death within
4	38	"	"	Oct. 23, '88, R.			Relapse and death within
1 Daniel T. Nelson, Chicago.	47	Carcinoma.	Silk ligatures.	Dec. 26, '89, R.			Not returned.
2	47	"	Forceps.	Jan. 4, '90, R.			Returned.
1 J. S. Pinkham, Lynn, Mass.	66	Sarcoma.	Clamp.	April 15, '89, R.			Pat. now in good health.
2	58	Cancer of cervix.	"	June 18, '89, R.			Not returned.
3	58	"	"	Feb. 18, '89, R.			Had symptoms of retrn.
4	54	" of body.	"	Sept. 6, '89, R.			In good health.
1 F. A. Reamy, Cincinnati.		Cancer.	Ligatures.	1885.	D.	Shock.	At this writing 10 of the 12
2		"	"	1888.	R.		subjects are dead. In 8
3		"	"	1885.	R.		cases recurrence in less
4		"	"	"	R.		than 12 mos. In 1 case
5		"	"	"	R.		within 13 mos., 1 within
6		"	"	"	K.		15 mos. Of the two re-
7		"	"	"	D.	Uremic coma.	maining cases, 1 will, in
8		"	"	"	R.		my opinion, have no re-
9		"	"	"	R.		currence. The last one
10		"	"	"	R.		is too recent to be con-
11		"	"	"	R.		sidered.
12		"	"	"	R.		
1 C. A. von Ramdohr, N. Y. City.	33	Sarcoma of cervix.	Silk ligature.	June 1, '86, R.			
1 J. Algren, Toronto, Ont.	62	Epithelioma of cervix.	Clamp.	Aug. 6, '88, R.			
2	37	"	"	Nov. 30, '88, R.			
1 Alex. J. C. Skeene, Brooklyn.	57	Epithelioma of body.	Forceps.	Dec., '88, R.			Died nine months later.

eration have shown a gradual lowering of mortality since 1880. The statistics of all published cases, gathered by Dr. S. E. Post, showed for the cases published before 1880 an immediate mortality of 37 per cent.; for those published in 1880 and 1881 26.5 per cent.; for additional ones to the end of 1882, 27 per cent.; for additional ones to the end of 1885, 24 per cent.; while the additional ones to the end of 1887, gave a mortality of only 20 per cent. The above statistics are valueless to prove the legitimate ultimate mortality of this operation. First, because they contain the records of operators of experience, not only, but also those of scores of operators with their first one or two cases and the result of all their inexperience; second, because these statistics are the records of operations performed while the procedure was in its primitive and experimental stage, and, too, many of the results represent work performed before the establish-

ment of the present antiseptic surgery. In order to get more nearly at the present status of this operation in this country, and to be able to forecast with greater accuracy the future immediate mortality of this operation, I sent circular letters to many of the leading operators of this country requesting them to fill out enclosed blanks with histories of all operations of vaginal hysterectomy performed by them since January, 1885. I received replies from twenty-five operators, representing 134 operations, with 20 deaths, or a mortality of less than 15 per cent. Of the 25 who responded, 4 had operated but once, 3 twice, 2 three times, 3 four times, 5 five times, 2 six times, 1 eight times, 1 twelve times, 1 thirteen times, 1 fifteen times and 1 twenty times.

The average mortality of the four highest operators is just 10 per cent. The operator having the greatest number of operations to his credit, has also the lowest average mortality. The mor-

tality being but 5 per cent. with twenty cases. The operator having the next highest number of cases, has also the next lowest mortality, or 6 $\frac{2}{3}$ per cent. in fifteen cases.

These figures are all significant. They show conclusively that vaginal hysterectomy is no exception to the rule, that with experience in operating comes proficiency and lowering of death-rate. They demonstrate, to my mind, that the legitimate death-rate among good surgeons, ought not to exceed 10 per cent., and that the death-rate with the expert will not exceed 5 per cent.

This then, is the burden of my proof: With the best record, in this country, for the so-called conservative treatment, we have a mortality of 3.6 per cent., while the best record for the radical operation is but 1.4 higher, or 5 per cent. With the next best record for the conservative treatment, we have a mortality of 6.6 per cent., while for the radical operation we have but 6.6 per cent. Thus, we find, without any manipulating of statistics, the comparatively new operation of vaginal hysterectomy presents a mortality, which is but a shade higher than the old and imperfect so called conservative method.

I will leave this subject now with the society. I am aware that not all the proof which I have been able to array, in support of my propositions, has been conclusive; they do, however, represent my honest convictions.

GENERAL SUMMARY:

1. Vaginal hysterectomy is the most justifiable surgical procedure, we yet know, for the cure of cancer of the uterus.

2. Vaginal hysterectomy should be attempted, for the cure of cancer of the uterus, at the earliest possible moment after the disease is diagnosed.

The following facts are given in support of the foregoing proposition:

a. Vaginal hysterectomy will remove the entire disease in cancer of any portion of the uterus in a greater proportion of cases than will any other surgical procedure now recommended.

b. Vaginal hysterectomy for cancer of the uterus will enable an operator to go farther beyond the diseased tissue into healthy tissue than will any other surgical procedure now recommended.

c. Vaginal hysterectomy is a more ideal surgical operation, and leaves the remaining tissue in a less favorable condition for the return of the disease, than will any other surgical procedure now recommended.

3. Vaginal hysterectomy, for cancer of the uterus, will give in the future, an immediate mortality among general operators of not more than 10 per cent., while in the hands of experts it will not exceed 5 per cent.

TESTS FOR VISUAL ACUTENESS; THEIR ILLUMINATION; AND THE STANDARD OF NORMAL VISION.

Read in the Section of Ophthalmology at the Forty-first Annual Meeting of the American Medical Association at Nashville, Tenn., May, 1890.

BY EDWARD JACKSON, A.M., M.D.,

PROFESSOR OF DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC, SURGEON-TO WILLS EYE HOSPITAL, OPHTHALMOLOGIST TO THE RESH HOSPITAL.

The adoption of a definite series of tests for visual acuteness, constitutes an important advance in the diagnosis of ocular conditions. The Jaeger scale and method of notation added greatly to the definiteness of our knowledge. But the work of Snellen brought a further advance, of perhaps equal importance; and his series of test type, and system of fractional notation have almost entirely supplanted their predecessors. Probably most of us have realized that the Snellen system, too, is not perfect; and whether or not we are prepared to at once supersede it, a discussion of its deficiencies, leading to a more exact appreciation of them, will certainly be profitable.

We use tests of visual acuteness for two purposes, the determination of visual power of the eye, and the ascertaining what lens from the trial set best corrects its error of refraction. For the former use we require of our standard that it shall have a fixed and definite significance. Variability and indefiniteness in our standards are absolutely fatal to scientific accuracy. For the latter use we require a test that shall not mislead us into resting satisfied with an imperfect correction when a better one is obtainable.

The observation on which the Snellen scale was based was, that in healthy eyes free from manifest ametropia, two points to be seen as separate points must be far enough apart to subtend an angle of one minute, or a little less. This observation has been abundantly verified, and for the great mass of eyes its substantial correctness cannot be questioned. Snellen, experimenting and reasoning on this subject, came to the conclusions that only a block letter can have all its different parts equally visible, and that to have each of the component parts of a letter visible to the normal eye, each of these parts must subtend the angle of one minute. He also found that in some of the capital letters of the alphabet, as B and S, to make the letter at all complete there must be at least five component parts both vertically and horizontally. Therefore he constructed his test-type on such a scale that each letter should occupy a square, each side of which should subtend an angle of five minutes at the nodal point of the eye.

But the majority of the letters of the alphabet do not require that five component parts shall be seen in order that the letter shall be recognized, O will be recognizable if the angle it subtends is but three minutes, and an L can be constructed

that can be positively identified by eyes with ordinarily perfect vision under a visual angle of about two minutes. Block letters of equal size then, are very unequally visible; to be equally visible, they must be of very different sizes. Dennett carefully worked this subject out, (see Trans. American Ophthalmological Society for 1885), and proposed that the letters on any one line of our test-cards should be made of such unequal sizes that they should really be equally visible, at any given distance.

Other methods of meeting this difficulty have been resorted to. As in a card, published by Bonschur and Holmes of Philadelphia, letters like the O, C, G, and Q, that are liable to be confused with one another, are printed on the same line. In Oliver's, and many other cards, only certain letters are employed, the others being excluded; one author selecting certain letters, another choosing certain others. About three years ago I arranged a card on which the letters were each made to subtend an angle of four and one-half minutes, instead of five, the letters more easily seen being placed at the beginning of each line. And since then cards have been arranged by Dr. Chas. M. Culver, and Dr. James Wallace, with letters subtending an angle of four minutes each.

The card last alluded to, which is published by Wall & Ochs, of Philadelphia, is on the whole the most satisfactory card of test letters that I have used; and yet it is very far from furnishing a perfect standard for the determination of visual acuteness. The raising of the standard does not even do away with hyper-normal vision. Of one hundred consecutive cases of ametropia tested with this card at the distance of *four* metres, after the correction of their ametropia:

1 could read only the 12 metre line; 3 could read only the 7.5 metre line; 3 could read only the 6 metre line; 13 could read only the 5 metre line; 29 could read only the 4 metre line; 24 could read most of the 3 metre line; 20 could read nearly all of the 3 metre line; 7 could read all of the 3 metre line.

That is, 51 per cent. of these patients had vision distinctly better than $\frac{1}{4}$, when tested by letters subtending the angle of only four minutes.

It is possible that still smaller letters would do as well, or even better for practical work with the trial-glasses, but what has been said is sufficient to show that no visual test embracing such varied and complex forms as the letters of the alphabet can give us a standard of such scientific definiteness and accuracy as we have the right to demand. Such a standard is only made possible by recourse to some simple, constant, geometrical figure.

A NEW TEST.

The figure I have chosen for this purpose is here shown.



It is an incomplete square, each side of which subtends the angle of three minutes; the incomplete side being turned in the various directions, and the patient required to indicate its direction. This is based on the same observation as Snellen's test, that points to be seen as separate points must be separated by an angle of one minute, but it furnishes a test that conforms as nearly as any test may to the scientific requirements of constancy and definiteness. A card of such test figures, arranged for use at the distance of four metres, has been published by H. C. Boden & Co., of Philadelphia, and may be obtained of them.

I have also found very useful as a test of visual acuteness that could be carried in the vest pocket, one of these same incomplete squares printed in the centre of a square card. It can be turned in any direction and the patient required to indicate its direction. There is only one chance in four of his guessing right, and a few trials give certain evidence as to the visual acuteness.

I do not offer these tests expecting them to supersede the use of test-letters for the ordinary correcting of ametropia. But if we will use them simply for determining and recording the visual acuteness in each case, we will obtain records of far greater scientific and practical value, than are obtainable with the various letter-tests that claim to be founded on the Snellen basis.

ILLUMINATION OF THE TEST CARD.

The results obtained with the four minute test-type, referred to above, may strike some as extraordinary. But I am satisfied that they will not be found exceptional, provided the ametropia is perfectly corrected, and the *test card well illuminated*. This matter of the illumination of the test-card is not sufficiently appreciated. Probably the greatest harm that comes to us from accepting as normal Snellen $\frac{3}{8}$, which is often not three-fourths of normal vision, is the tendency it breeds to tolerate an utterly inadequate illumination.

We all understand that the visibility of any test varies with its illumination, but no one who has not worked by a constant [artificial] illumination can appreciate the enormous variations, not only from day to day but even from hour to hour or minute to minute, in the ordinary diffused daylight. Then, under the best conditions diffuse daylight gives a too feeble illumination, unless the card be directly exposed to a large expanse of unobstructed sky, or the reflection of direct sunlight from a white or other light colored surface.

In estimating ametropia with the test-lenses and letters, we appreciate the uncertainty, the widening of the limits of probable error, that come from amblyopia due to haziness of the media, or disease of the retina. Yet very often the

same uncertainty and increased chance of error is permitted through imperfect illumination. In one of the largest ophthalmic hospitals of this country, the surgeons and their assistants have to put down on dark days $\frac{3}{8}$ or $\frac{2}{3}$ as the best obtainable vision for the majority of persons, and are satisfied with any illumination that gives it. There can be no doubt that all refraction work done under conditions where $\frac{3}{8}$ to $\frac{2}{3}$ is the best obtainable vision is vitiated with great probability of error. To render evident the slighter departures from perfect vision, the slighter departures from perfect correction of the ametropia, strong illumination is essential.

Brightness aids in securing practical constancy of illumination. When the light is feeble a slight change in its quantity makes a notable change in the visibility of the test; but as the illumination is made brighter the amount of light that must be added to cause such a change must be much greater; until finally a point is reached beyond which the indefinite increase of the light adds practically nothing to the visibility of the test.

For some years I have used the illumination from an argand gas-burner, placed fifteen inches from the test card. This is brighter than can be obtained by diffuse daylight, except through a large skylight, for a small part of an especially bright day. And a somewhat brighter illumination still would be a little better. Such an illumination is subject to slight variations, but they are quite insignificant as compared with those of diffuse daylight; and the somewhat yellowish color of the light, by lessening irradiation, is very favorable to clearness of vision.

THE CLINIC.

SIMPLE OVARIOTOMY.¹

BY O. G. PFAFF, M.D.,

CLINICAL LECTURER ON DISEASES OF WOMEN IN THE MEDICAL COLLEGE OF INDIANA; GYNECOLOGIST TO THE INDIAN-APOLIS CITY DISPENSARY, ETC.

Gentlemen: What I shall have to say to-day concerns chiefly *simple methods of work* as applied to the general run of cases, and it is not at all designed to be a detailed description of the work of any particular man. On the contrary, I have seen many operators at work and I think I can see that those whose operations are marked by rapidity and simplicity obtain the best results; and it shall be my aim to simply emphasize certain points which observation and experience have taught me, constitute the first principles of intelligent clear-headed work, and the key-note to success.

In undertaking any operation wherein the ab-

dominal cavity is to be invaded, we should have as a part of our equipment, two basins; one to contain a very few instruments which are always required, the other to contain those which may be needed; many cases will be thoroughly well done, and quickly too, by means of a scalpel, a grooved director, a pair of dissecting forceps and a Hagadorn needle; but in the complicated cases our supply must equal the demand; the best rule is to use one instrument for as many purposes as due regard for efficiency and economy of time will permit.

Make a quick incision, taking care not to cut too deeply, aiming directly for the linea alba, which is the line almost universally accepted as the only proper route to the peritoneal cavity; however, I believe it makes no difference, and the only reason for making the cut through the linea alba is, that it chances to be the median line, and therefore most naturally invites incision. If the linea alba be not directly reached, authorities generally agree that we should carefully dissect for it; to do so is but to sacrifice precious seconds without the possibility of any compensation whatever; on the contrary, it but complicates the first steps of the operation; there is more bleeding from the muscle wound than occurs from the regulation incision, but this is of no consequence at all as it is instantly and perfectly controlled by compression forceps. This incision has a positive advantage in healing, for as Dr. Robert Morris truly says, a cut through muscular fibre heals much more readily and firmly than does a cut through fibrous tissue.

Having reached the peritoneum, picked it up with the dissecting forceps, knicked it with the knife which you have not as yet laid down, it is to be opened on a grooved director with the same knife to the extent of the external wound; in a very large majority of cases it is by this time apparent whether the abdominal wound is to be enlarged or not; in case it is decided to extend the cut, it is the custom of most operators to do so by means of scissors, protecting the abdominal viscera from injury by a grooved director guiding the under blade. A quicker, neater and more surgical way is to simply insert two fingers through the abdominal wound, letting them occupy a position directly beneath the line of proposed incision, and with the knife, still held in the hand, with its point following the groove between the two fingers, enlarge the opening to the extent desired, above and below.

After evacuating the cyst, with the patient always on her side for this purpose, and the cyst wound again closed with catch forceps, the adhesions must be attacked with the utmost determination, as there is but one rule; they must be broken up; and we are justified in using a great deal of force to accomplish that most necessary result, even if the bladder or intestines be torn as

¹A paper upon this subject was read before the Mississippi Valley Medical Association, Oct. 10, 1890.

the result of determined effort at separation; these injuries properly repaired and the cyst completely removed, the woman's chances for ultimate recovery are far brighter than they could possibly be were the cyst allowed to remain and the vain attempt to cure by drainage made; such attempts amount simply to tapping and end in disappointment and disgust.

The enucleation of certain tumors is practicable and may be resorted to as the quickest and safest method of removal; I am aware of the fact that when adhesions are very extensive and firm there has usually been inflammation of the cyst and that its layers cannot be separated, but in a recent case where I had undertaken the removal of a large multilocular cyst, the woman having had several attacks of peritonitis, I encountered adhesions so extensive and firm that it seemed impossible to break them up without the almost certain result of serious damage to the abdominal viscera; I made the attempt to enucleate, and the ease and rapidity with which I accomplished the maneuver amounted to a positive delight.

In treating the pedicle, the clamp is more often a hindrance than a help, and should be dispensed with whenever it is possible to do so, its application and removal consumes valuable time and its employment does not simplify the operation.

The pedicle is to be tied in two or more sections by crossed ligatures of No. 11 braided silk, prepared for the purpose by six hours immersion in melted yellow wax, according to Skene's method.

The simplest manner of introducing the ligature is with a slightly curved Hagadorn needle held between the thumb and finger, although the small ligature forceps of Keith are convenient, and also those of Cleaveland. When securely tied and neatly divided, the edges of the stump will be everted and curl back over the ligature forming a capsule for it, thereby effectually disposing of the question of subsequent irritation as far as that particular ligature is concerned.

Following the removal of a tumor, or diseased ovaries, or the performance of any other abdominal work, the cavity is to be thoroughly flushed with strained, boiled water at a temperature of several degrees above that of the blood, poured in a strong stream from an ordinary pitcher, as this can be more rapidly done than if the fountain irrigator be employed; and also in the pitcher we have constantly presented for inspection the whole quantity of water to be used; this is of practical importance as I have known of a fly to drop into the fountain reservoir, the mouth of which had been carelessly left uncovered.

This irrigation should be practiced in every case, no matter how simple the operation nor how clean the cavity, and I believe that in a large majority of instances, the chief benefit to be derived from this process of hot water irrigation comes of the fact that it prevents shock or counteracts its effects.

While assistant to my preceptor, the lamented Harvey, whose proportion of terrible cases can scarcely be matched, and who, as an operator, judged by the results in *such cases*, had few peers, and no superiors, I have seen the hot water poured into the pelvic cavities of patients in a state of collapse from the effects of the prolonged and complicated operations, and these patients had the scale turned at once in their favor and most of them got well when they would otherwise, many of them, have undoubtedly succumbed immediately to the effects of the operation. If it does so much in such cases as were Harvey's, the use of hot water in simple cases is but to insure the lives of our patients.

In closing the abdomen, the Peaslee needle or some modification of it is very generally used, but I think this is because of the tardy arrival of the Hagadorn needle; the clumsy "see-saw" motion necessary with the Peaslee needle has driven it from the perineum and it is but the result of progress that it should take its place along with silver ware on the retired list with full honors, to be called on for service only in time of emergency.

I have devised a needle forceps which will hold a Hagadorn needle of any size, straight or curved, at any angle desired. With this instrument I grasp the slightly curved No. 2 Hagadorn needle near the eye, holding it directly on a line with the instrument, and push it through the abdominal walls, completing the suture as in any other wound; I believe a still better method is to hold the needle between the thumb and finger, passing it directly through as described without the aid of any forceps whatever, this is my custom in suturing the perineum, and I have tried it in laparotomy with much comfort.

The sutures and dressings which I have adopted are both Skene's, and are described by him in his recent work, however, I will give a few points which I received from him.

Braided silk is used for all sutures and ligatures in this and all other surgical operations; its chief merit lies in the fact that braided silk cannot untwist, because it is not twisted, therefore its fibers cannot become separated thereby favoring the accumulation of blood clots or other debris which might decompose. The proper size for the pedicle is No. 11; for ligating strong adhesions or large blood vessels, No. 3; and for the abdominal walls, No. 4.

The braided silk is prepared for use by the surgeon himself; or a super-consciousness assistant. I first wind it loosely around a small, clean piece of pine wood, the diameter of a pencil and three or four inches long; it is then put into a small basin with sufficient yellow wax (which is more pliable than white wax) to cover it when melted; it is then placed in a hot water bath where it must remain for full six hours, this time

being required for the thorough saturation of every fibre with the wax. The silk is now to be drawn through a carbolized sponge to remove the surplus wax, when it is to be wound upon suitable spools and kept in a closed bottle; silk so prepared is absolutely aseptic, and so far as its body is concerned it must remain so, as it can no more absorb anything than can silver wire; when removed after the healing of wounds and examined by experts, the silk has been repeatedly found to be still aseptic; for the sake of insuring an aseptic condition of the surface of the sutures, they must be placed in antiseptic solution at the time of the operation just as is the custom when silver wire is employed.

In tying the sutures it will facilitate the work to first smear the portion which is to form the knot with a little purified vaseline.

The dressing is, I think, perfection, both in simplicity and efficiency: no iodoform, no bismuth, no oiled silk, nor patent protectives of half a dozen layers, but simply one square yard of ordinary cheesecloth boiled, and then soaked over night in a 12½ per cent. solution of carbolic acid in glycerine; wring this out with the hands when it is to be used, fold it to a convenient size, about 6x10 inches, adjust neatly over the wound, cover it with a good thick pad of cotton and apply an ordinary binder; when this dressing is removed at the end of a week, it will be as sweet and clean as when first applied.

The after treatment is as important as it is simple and should be commenced before the operation; that is a saline laxative just before the anæsthetic securing an action of the bowels directly after the operation, and I insist on daily evacuations for at least four days, thereby providing most efficient drainage, preventing fever and abolishing pain.

Fever and pain generally mean sepsis, and drainage by the bowel is the remedy, not quinine and opium. If in spite of everything, serious, general peritonitis should supervene, and refuse to yield to the free administration of salines, the patient is entitled to one more chance, open the wound, wash out the cavity freely again with hot water, suture it closely and apply a fresh dressing.

For extraordinary and persistent pain I give anodynes, and for very high and stubborn fever I give antipyretics, but in the main patients suffering from the effects of operations must be treated mechanically, and if they cannot be saved by such treatment they must die.

PRINCE ALEXANDER OF OLDENBURG has contributed a sum of 400,000 roubles (about \$230,000) towards the establishment of a hospital for patients suffering from tuberculosis in St. Petersburg.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

CREOLIN.—In an inaugural dissertation at Breslau, in 1890 (*Centralblatt für Gynäkologie*), H. BITTER gives a résumé of the use of creolin in over two thousand puerperal cases in the Breslau Lying-in-Hospital. In three women who were having uterine douches of creolin solution symptoms of intoxication suddenly appeared, such as anxiety, nausea and fainting. All complained of a taste of tar or smoke in the mouth. The taste was persistent for a time, but the other symptoms disappeared immediately on interrupting the douches. A fourth woman was very restless and felt weak for several days. Thirty-six hours after the attack in these cases, the urine drawn with catheter was dark brown and contained albumen. The color disappeared in a few days, but the albuminuria persisted for a short time. The author favors creolin on account of its anti-bacterial properties and its relative harmlessness to patients. It is a good deodorizer, irritates the skin, mucous membranes and wound surfaces but little. It has no anti-hæmorrhagic action. Its disadvantages are that the solutions or emulsions are not transparent, and the preparation is not always reliable.

KOCH'S TREATMENT IN LUPUS; FATAL RESULT.—JARISCH (*Wiener klin. Wochenschr.*, No. 50, 1890), gives the following details of the case of lupus in which death recently followed the injection of Koch's fluid at Innsbruck. The patient was a girl, aged 17, who had been under treatment in the Dermatological Clinic for a year and a half for lupus exulcerans of the face. The general state of nutrition was good. The skin of the face was for the most part transformed into a reticulated scar, isolated lupus nodules projecting in the meshes of the cicatricial network. The *alæ nasi* were completely eaten away, the nares narrowed so as barely to admit a quill, the mouth narrowed so that examination of its interior was impossible. There was ectropion on the left side; the cervical and submaxillary glands were enlarged. Examination of the thoracic and abdominal organs gave negative results; there was no albumen in the urine. On December 3, at 9.30 A.M., an injection of 2 milligrams of carbolized Koch's fluid was given. Local reaction was very marked. During the rigor the lupus scars on the face became livid. About 3 P.M. the lower parts of the face at the edges of the cicatrices became swollen, the scars themselves being surrounded to the extent of a finger's breadth by a bright red inflammatory halo. The cheeks and nose showed no marked changes, but the upper lip was livid. About 5 P.M. all the cicatrized parts were swollen, tense, and surrounded with

the intense red zone as before. The lupus nodules appeared more prominent and were bright red in color, most of them being still isolated, but their inflammatory halos were confluent in some cases. At 9 A.M., on December 4, the swelling and redness were more diffused, the whole of the face being involved, especially in the lower parts. The bright red had given place to a livid color. In addition to the other ordinary signs of local reaction, it was noticed that the ectropion was markedly diminished; and the conjunctiva, palpebral and ocular, of both eyes was intensely red and secreted copiously. On the day of injection the temperature rose to 39.6°C . at 2.30 P.M., and to 40.3°C at 4.30 P.M. At 5.30 P.M., the patient began to vomit, and at 6 P.M., she became drowsy. At midnight the temperature was 41° , reaching its highest point— 41.5° —at 3 A.M., on December 4. At 9 A.M. on that day the pulse was very small and intermittent, and could not be counted; the respiration was 40. In spite of the free exhibition of stimulants the patient continued to sink, and died at 9.45 P.M., on December 4. The post-mortem examination, which was made by Professor Pommer twelve hours after death, gave striking evidence of the energetic action of the remedy on all the tuberculous foci. There was swelling with redness in the scars and in the neighborhood thereof, and also round the ulcers in the mouth, mucous membrane of the palate and epiglottis; and great swelling of the submaxillary and cervical lymphatic glands, and of those along the trachea, and beneath the bifurcation of that tube and the roots of the lungs. These glands were caseous, and presented in their interior numerous typical tuberculous foci. There were extensive ulcerated areas in the large and small intestine. In both lungs there were numerous disseminated patches of pneumonic infiltration with oedema round about; there was also great oedema of the brain and spinal cord; acute swelling of the spleen, which was 14 centimetres in length, $9\frac{1}{2}$ in breadth, and $4\frac{1}{2}$ to 5 in thickness; and slight parenchymatous swelling of the liver and kidneys. There were capillary hæmorrhages in the pleuræ, the parietal layer of the pericardium, the thymus, and in several parts of the spinal cord. Among the chronic changes found in the body in addition to the lesions of lupus and tuberculous bronchitis there was callous atrophy of the superficial parts of the apices of both lungs; in these spots there was no sign of reaction. There was also slight stenosis of the left ostium atrio-ventricular, eccentric hypertrophy of the right side of the heart, and hæmorrhagic pachymeningitis. There was neither stenosis nor oedema of the larynx, and there were no tuberculous formations in the lungs.—*British Medical Journal*.

Medicine.

VAUGHAN ON THE CHEMICAL STUDY OF THE SUMMER DIARRHOEAS OF INFANCY.—The author has long maintained that the microorganisms which produce the catarrhal or mucous diarrhoeas of infancy are merely putrefactive, or saprophytic, in character, and that they prove harmful by forming chemical poisons. Booker Escherich, and other able bacteriologists, have made a careful study of the bacteria found in the intestines and stools in these diseases, and all agree that no specific organism is found. From a study of the researches of others, and from his own investigations, Vaughan draws conclusions which he formulates in the following propositions: (1) There are many germs, any one of which, when introduced into the intestines of the infant, under certain favorable conditions, may produce diarrhoea. (2) Many of these germs are probably, truly, saprophytic. (3) The only digestive secretion which is known to have any decided germicidal effect is the gastric juice; therefore, if the secretion be impaired, there is at least the possibility that the living germ will pass on to the intestine, will there multiply, and will, if it be capable of so doing, elaborate a chemical poison which may be absorbed. The chief reason why the breast-fed child has a better chance for life than the one fed upon cow's milk, lies in the fact that the former gets its food germ free; but a second reason is to be found in the larger amount of acid required to neutralize the cow's milk, as has been pointed out by Escherich. The gastric juice is the physiological guard against infection by way of the intestines. (4) Any germ which is capable of growing and producing an absorbable poison in the intestine is a pathogenic germ. (5) The proper classification of germs, in regard to their relation to disease, cannot be made from their morphology alone, but must depend largely on the products of their growth. If these deductions be true, we will try to avoid the introduction into the alimentary canal, not only of the so-called specific pathogenic germs, but of all toxicogenic microorganisms.—*London Med. Recorder*.

TREATMENT OF GONORRHOEA IN THE FEMALE.—M. SCHMITT (*Revue méd. de l'Est*) uses the following method in combatting gonorrhoea in the female: rest in bed and cauterization of erosions with solution 20 per cent. of nitrate of silver. Abscesses of the vulvo-vaginal glands, if present should be freely incised. Injections once or twice each day of at least two litres of a 1:10,000 solution of corrosive sublimate; this is to be followed by an injection of the biniodide of mercury (1:4000) with the hips somewhat elevated. This last injection should be retained for a few minutes and the vagina then packed with cotton saturated with iodoform and glycerine, in the beginning of the affection, and later by a tampon

saturated with tannum. Under this management the inflammation commonly subsides in from ten to fifteen days. When the urethra is affected nitrate of silver may be employed with advantage.

HYPERTROPHY OF ONE HALF OF THE FACE.—KIWALL (*Fortschr. d. Med.*) describes an exceedingly interesting case of this rare condition, occurring in an eighteen year old girl. The trouble had existed from birth, soon after which a peculiar fullness of the right side of the face was noted, which in time increased. At the time she came under observation the enlargement extended from the forehead of the affected side to the throat, the tongue was also hypertrophied upon the right side. The bones as well as the soft parts were involved. A portion of the upper lip excised for microscopic examination showed that the hyperplasia affected only the connective and adipose tissues, while the muscular fibres appeared atrophic.

Surgery.

ISCHIAS SCHOLIOTICA.—LAUENSTEIN, of Hamburg (*Centralblatt für Chirurgie*) cites from a Swedish author the case of a man who had a severe sciatica on the left side. In consequence a scoliosis developed, with convexity towards the left lumbar portion, and in the dorsal and cervical part of the right side. After improving the sciatica by means of warm baths, electricity, massage and antifebrin, the scoliosis disappeared.

CHRONIC MASTITIS SIMULATING CARCINOMA.—PHOCAS, VERNEUIL, LEDENTU and TILLAUX (*Gaz. des Hôpitaux*) have all observed cases of chronic mastitis in women at the second climacteric, which simulated carcinoma. The swelling of axillary glands, emaciation, weakness and anæmia were all usually present. Phocas recommends the application of carbolic spray for a time in doubtful cases, and has seen cases subside under its use.

CONCUSSION OF THE SPINE.—SMAUS, of Munich (*Centralblatt für Chirurgie*), has made some experiments on animals to study the pathology of spinal concussion. The animals were struck on the spine with a hammer, and lived from twenty days to eight months. At the autopsy there were found in some circumscribed foci of softening in the spinal cord; in others gliomata were imbedded in the cord, and some of the conducting fibres were destroyed by pressure. These were considered direct traumatic degenerations, because no hæmorrhage, myelitis or other cause was found. The microscopic examination of parts of cord corresponding to the location of the blows showed swelling and degeneration of axis cylinders, and in some cases of the nerve sheaths and connective substance. The striking inconsistency between the clinical history and the microscopic

appearances shows that more nerve fibres are destroyed by concussion than can be found with the microscope to be degenerated.

UNUNITED FRACTURES.—The *Centralblatt für Chirurgie* gives a synopsis of the fractures treated in the Zurich clinic from 1881 to 1888. Of the 489 fractures presented during those years there were sixteen which healed very slowly, and six which gave place to false joints. In addition, eight cases of pseudarthrosis came to the clinic for treatment. Cases of pseudarthrosis of the olecranon, patella and neck of the femur are not included in the enumeration. In no case was a constitutional cause found for pseudarthrosis among these fourteen cases. The causes were dislocation of diagonal fractures and interposition of muscular tissue, etc. These cases were found to agree with Brun's statistics to the effect that pseudarthrosis is rarer in children than in middle life. Two of these cases were healed by iron nails driven into the connective tissue callus. Four treated by ivory pegs, with one unsuccessful result. Nine were resected, with one unsuccessful result.

Obstetrics and Diseases of Women.

DOUBLE PREGNANCY IN A CASE OF UTERUS SEPTUS DUPLEX ET VAGINA DUPLEX.—ALTHEN (*Centralblatt für Gynäkologie*) describes an interesting example of this condition. A woman 31 years of age was delivered of a four and one-half months fetus. On the following day a fetus of like development was born, but the placenta was retained. Althen was sent for on the following day to remove the after birth. Examination showed a complete vaginal septum, that separated two distinct vaginal canals, which extended upwards where they terminated each in a separate cervical canal. By examination a communication could be determined between the cervical cavities. The placentas were removed with difficulty, each from its special uterine cavity. The writer thinks that both vaginal cavities were used in coitus though the right was somewhat smaller. The opening between the cervixes, was he thinks caused by the labor. Unfortunately both fœti had been taken to the cemetery, so he could not determine positively if there was a difference in their ages. The patient says that she menstruated regularly at intervals of two and one-half weeks, alternately 2 to 4, and again six days in length. From this fact the writer concludes that there was an alternation in this function by both uteri.

HÆMOPHILIA AT THE MENSTRUAL PERIOD.—DR. C. TOWNSEND (*Boston Med. and Surgical Journal*, November 26) had recently under his care a healthy, well developed and intelligent girl of thirteen. Some of her family were "bleeders." When an infant, the slightest bruise caused con-

siderable subcutaneous effusion of blood. She bled freely when a little child when cut, or when bitten by insects. Epistaxis was frequent, but ceased after the safe and successful removal of mucous polypi. The joints never became swollen. A "show" appeared at thirteen, and three napkins were stained two weeks later. A week later serious menorrhagia set in, with blanching and faintness. Restlessness, nausea, vomiting and intense thirst, with rise of temperature occurred; as she tossed in bed ecchymoses formed on the shoulders and elbows. As the patient became dangerously exhausted and as the vomiting continued, an enema (one raw egg with three ounces of peptonized milk) was given every three hours. Milk and lime water was administered when the vomiting ceased, and by the end of the week she took beef tea and milk as well as the enemata. The thirst did not diminish until the fifth day of treatment. A tampon, inserted when the flooding was severe, was removed three days later; a slight discharge continued for nearly a week. At the end of ten days the girl was fairly well. It is not stated whether the troubles recurred at succeeding periods. Osler has already noted that in female members of hæmophilic families neither menstruation nor parturition is specially dangerous, and Dr. Townsend notes that other authorities are of the same opinion, according to their own experience.—*Brit. Med. Jour.*

ANTISEPTICS FOR MIDWIVES.—MM. BOURGOIN, BRONARDEL, GUÉNIOT, NOCARD, TARNIER and BUDIN, a committee, have reported to the Minister of the Interior, (extr. du *Bull. de l'Académie de Méd.*) the following disinfection methods for midwives: The hands of the midwife, and genitals of the patient should be cleansed by a mixture of corrosive sublimate 0.25, tartaric acid 1.0, bordeaux red 0.001; on the package should be printed "Sublimate 1.25 for a liter of water, poisonous." Metal instruments should be sterilized by boiling. Sublimate vaseline 1:1000 is also allowed. For simplicity in the disinfection regulations carbolic acid is omitted.

ABSORBING POWER OF UTERUS AND VAGINA.—DR. L. LANDAU (*Berlin. klin. Wochenschr.*, November 10th, 1890) has found from experience that the vaginal mucous membrane has but a feeble absorbing power, whilst the uterine mucous membrane possesses that power to a very high degree. This fact is of extreme importance in gynecology, as strongly medicated tampons may fail to act if inserted into the vagina, whilst if passed into the uterus they may set up grave complication. The vaginal mucous membrane is really skin, and becomes true dry skin in cases of prolapse. The free surface of the cervix has

hardly any power of absorption. Dr. Landau demonstrates from cases how different it is with the endometrium. After the introduction of a solid to per cent. preparation of resorcin into a uterus, severe and long standing uterine colic was set up. The introduction of a 1 per cent. cocaine compound caused the pains to cease. The cocaine was absorbed and by paralyzing the sensory nerves it produced anaesthesia.—*Brit. Med. Jour.*

Bacteriology.

SCHOLL ON INVESTIGATIONS INTO CHOLERA-TOXINES.—The conclusions of the author's experiments, made in the Hygienic Institution of the (German) University of Prague, are as follows: "The toxic peptone which I have produced from genuine albumen, after its destruction by anaërobiosis, is quite distinct from Petri's toxo peptone (formed by aërobiosis), because the latter is not destroyed by boiling, while mine is rendered inert. My choleraicpepto-toxine shows far more poisonous and characteristic properties than the toxins of Brieger and Petri formed by aërobiosis in peptone solutions, for the toxine which I procured (by the cultivation of cholera bacilli) from a single egg was sufficient to kill ten guinea-pigs in ten minutes with acute paralytic symptoms. The assertion of Hueppe and Wood, that more and stronger toxins are formed by cholera bacilli by anaërobiosis than by aërobiosis, is fully confirmed by my experiments, which negative the opposite assertions of Petri."—*London Medical Recorder.*

OPHTHALMIA IN A PUERPERAL WOMAN, CAUSED BY AN EMBOLUS CONTAINING STREPTOCOCCI.—The *Zeitschrift für Geburtshilfe und Gynäkologie* describes the case of a woman, who, a few hours after confinement had a high fever, pain and photophobia in the left eye. On the third day thereafter there was conjunctival and ciliary injection, chemosis, opacity of the cornea and vitreous. The anterior chamber was deepened, the iris discolored and loosened from its attachment and the lens luxated. On this day the patient could still discern light, but on the fourth day total blindness supervened in this eye. On the sixth day the patient died of pyæmia and the eye was removed for microscopic examination. The fact that the retina was found destroyed with the exception of two small islets, that the central artery and vein in the papilla, the vessels of the iris, the ciliary body and sclera were filled with streptococci, led to the conclusion that the streptococci came from emboli; and as there were no appearances of inflammation in the heart or on its valves it was inferred that the streptococci came by metastasis direct from the genitals. Suppuration started in the retina which it destroyed; then the vitreous was fluidified, the lens sank backward, its capsule became eroded, pus entered and filled the capsule.

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CEREBRAL SURGERY.

In no department of the healing art has there been a more surprising—it may fairly be said, revolutionary change in the last decade than in the surgery of the central nervous system. Two circumstances have concurred to bring about this result. On the one hand, the precision of diagnosis has been vastly increased by the discoveries in cerebral localization inaugurated by FRITSCH and HIRTZ, and amplified by so many investigators, experimental and clinical, that an enumeration of them would be either invidious or tedious. On the other hand, improvements in surgical technique, which have their scientific basis in PASTEUR's discoveries of the relation of microorganisms to fermentation and putrefaction, and LISTER's application of the facts to the infective processes in wounds, have almost abolished the risks, in competent hands, of the secondary troubles which formerly constituted the chief peril of operations in which the cranium was opened. As MR. TAIT has said that he would as soon put his fingers into the peritoneum as into his pocket, so MR. VICTOR HORSLEY, judging from a paper read by him at the Berlin Medical Congress, would probably have no more hesitation in putting his fingers inside the cranium than into his hat. Among the rather startling proposals that he makes are, trephining in cases of obstinate headache, referred to the bone, and incurable by means of drugs; in all cases of cerebral tumor, syphilitic and malignant as well as benign, and whether accessible or not, as he

claims that the operation, by diminishing the intracranial pressure, relieves pain, and prolongs life; operation for focal epilepsy, by excision of the portion of the cortex that is found, by electrical stimulation, to be the starting-point of the spasm; the same operation in athetosis; and, perhaps the most likely of all to provoke adverse criticism, ligation of the common carotid in all cases of cerebral hæmorrhages seen in the early stage, when the flow of blood may be presumed not to have ceased. With regard to this last proposition, it was objected, in the discussion that followed the reading of the paper, that the diagnosis of cerebral hæmorrhage at that stage is not a very easy matter. The ligature would not be likely to work well in cases of thrombosis or embolism.

Operations for cerebral tumor have hitherto only been proposed in cases in which there was thought to be some hope of removing the growth, and the results can hardly be said to be of a character to excite much enthusiasm, as MR. HORSLEY himself reports four deaths from shock out of eight operations. In this aspect of the subject, a paper recently published by OPPENHEIM, in *Archiv für Psychiatrie*, is of interest. Out of twenty-one cases of cerebral tumor in which autopsies were made, he concluded that five were unsuited for operation on account of multiplicity or malignancy, seven on account of the situation of the growths, six on account of the absence of localizing symptoms, and one on account of the syphilitic nature of the tumor, and one on account of its size, leaving only three in which operation would have held out a reasonable hope of success. HORSLEY is of the opinion that gummata should be excised, as he believes the iodide treatment to be only palliative, never curative. If as much relief of symptoms as he hopes for can be obtained by trephining in cases in which the tumor cannot be removed, the operation would seem to be justifiable, but, taking the most favorable view of it, we can hardly expect that it will rival ovariectomy in its results.

The above propositions will probably strike most of our readers as sufficiently venturesome, but they by no means satisfy the ambition of some operators. Trephining has been practiced for general paresis by CRIPPS, in England, in two cases, both of which were said, at the time they were reported, to show decided improvement subsequently

to the operation, and by WAGNER in this country, with some apparent temporary relief, the patient dying about two months after the operation. In view of the desperate nature of the disease, there is probably no serious objection to such a procedure, however little prospect there may seem to be of permanent benefit. The case seems rather different with the operations of which BURKHARDT gave an account at the Berlin Congress. He excised portions of the brain from the regions that he judged to be specially affected in cases of insanity without gross lesion. For hallucinations of hearing, for instance, he removed portions of the first temporal and second frontal convolutions, and in a case of excited dementia of syphilitic origin, portions of the frontal lobes. Aphasia and word deafness followed in some of his cases, and one patient out of six on whom he operated, died, apparently as the result of the operation.

DR. HOLMES characterizes those of our fellow-citizens commonly known as "cranks" as the possessors of squinting brains. At the present rate, we may perhaps expect that operations for cerebral strabismus will become as common as for squint-eye. Few of us, probably, can pretend to an absolutely symmetrical mental organization, and if harmony could be brought about by a little judicious paring of our brains, here and there, it would be a consummation devoutly to be wished. Whether, in case the difficulties of operative procedure can be overcome, it would be desirable, in any cases, to extirpate the cerebral hemispheres completely, need not be decided at present. There are some persons who could, apparently, be little injured by such an operation.

PEDAGOGY IN MEDICINE.

Most of us remember but little of our teachers. At the best only a few names loom up with a back-ground of gratitude, and these represent those whose hearts were in their work. Excluding the many who taught in a perfunctory way as the means to some end, the idea-imparters may be counted upon the fingers of a hand. The few excluded from the category are they who sought to make us equal to themselves, not so much in extent of knowledge as in the sources from which it was derived. They are those who taught us to classify and aimed not to merely present a mass of verbiage in a well-padded discourse to kill

time. How can we deify the conventional lecturer whose eyes seldom leave the manuscript, which for years has done duty with a perseverance worthy of a better cause?

Now that didactic teaching appears to be threatened with extinction and the art of the pure clinician has come into favor, what have our teachers to present in return for the prerequisites which have been gained after so much distress to the aching purse? What are the advantages offered in return for so much sacrifice? The student, aware of his rights in the premises, and vacillating between ambition and necessity, replies but little if anything. Too often is he conscious that he receives only a modicum in jargon or dogmatism in return for his confidence, and that his diploma is to be flanked by crude theories and mal-assimilated facts. Much that he may have learned he finds that he cannot make practical, and that the mannerisms of his preceptors are inapplicable beyond the class room. The aphorisms, which have been drilled into his ears he is fain to discard because the amplitude of argument with which they were enforced was grounded in error. And so he goes on until his revisions make a new text, and for the matter of that a new sermon.

Are the teachers of the day impressed with a sense of their responsibilities? We fear not. We hold that only the few appreciate the importance of their mission, and that of these few only a very small minority walk with their pupils. And what of the majority? Do they not satisfy themselves with wasted words and crude principles? Why we ask also may not every branch of our science be made interesting? We claim that it is beyond doubt possible—that demonstration, illustration, simile, anecdote and apothegm may be pressed into service. Further than all this we are ready to endorse what has so often been said, that teaching is quite enough of a specialty to attract the best of minds. But then we also must in duty offer the corollary that every instructor should make his subject presentable, and be made aware that he cannot afford to deceive the yearners after truth who pit the brevity of life against the gravity of the work before them.

Above all else, the student should be taught courage. With the responsibilities that are to confront him, he can hardly be expected to be

armed cap-a-pie and yet be unready for the fight. He is entitled to the hope of glory, which is to be gained certainly not without an effort, and even in spite of a studied dampening of all youthful ardor. This duty of stimulation can belong to none others than the college faculties with which our country abounds. A few endowments scattered among the more worthy of the institutions, might mend matters somewhat, but as long as there is so much fighting of the wolf at the door, we fear that pessimistic views will prevail. Still there is much room for hope, and to the future we look for a more complete solution of the problem.

BACTERIOLOGICAL RESEARCHES.

It is not now possible to estimate the enormous impulse given to experimental pathology by KOCH's discovery. We may doubt that a cure for tuberculosis has been discovered, indeed we may affirm that it is only a remedy or mode of treatment. But if it has not been discovered it will be sooner or later. KOCH is said to have used the words "ich habe es gefunden" in making the preliminary announcement to his medical friends. Not for years had he doubted but that the cure was ever awaiting upon discovery.

The zymotic origin of most of the epidemic and infectious diseases has been accepted by many for years, indeed the probabilities were so strongly in favor of it that the views were accepted long before the demonstrations. When they came they were adopted almost as a matter of course, by some, and denied by others. This is but a repetition of the history of similar discoveries, for it is now apparent that certain diseases, notably anthrax and tuberculosis, are as conclusively proven to be due to microbic infection as that the law of gravity acts when an object falls to the earth.

Another proposition, while not as conclusively proven, is still rendered highly probable, that is the bacilli are perhaps harmless in themselves, only exceptionally do they act in a mechanical way in obstructing vessels, or interfering with the nutrition of tissues. Their chief disturbing influence seems to be due to substances, toxins, ptomaines, or tox-albumens formed by them, which exert a local destructive action, or by reason of dissemination through the blood cause a general toxæmia. Several of these bodies have

been isolated from pure cultures of various pathogenic bacilli, now it is apparent that these substances circulate in greater or less abundance in the blood and doubtless also appear in the urine. EHRLICH's test, or the so-called diazo-reaction, demonstrates that in the urine of a typhoid fever patient there is a substance present which is not found in healthy urine. Unfortunately the reaction is also found in cases of phthisis and septicæmia. Is it not probable that identical substances are not present but they all give the same reaction, just as some reagents will precipitate several elements? What we now need is a careful study of these products, and if possible their recognition by simple chemical tests so that in the future all that will be necessary is to determine, by examining the urine or other fluids, what ptomaine is present and then apply the proper antidote. All this is beautifully simple, but it is probable that it will be some months before it will be an accomplished fact. Still in the light of the discoveries of the last few years it seems well within the bounds of the possible.

One lesson it ought to teach and that is the boundless reach of science. In medicine more facts have been learned since 1850 than were previously known, and yet each discovery only teaches us how much more there is to be learned. While the bacteriologist now seems to be in advance, he but points the way for the chemist and pathologist.

EDITORIAL NOTES.

AN OLD ADAGE REGARDING TYPHOID FEVER.—In an article by Dr. S. C. Benedict of Athens, in the Georgia State "Transactions" for 1890, just published, the writer calls to mind a long forgotten adage of that "sage of Baltimore," Dr. N. R. Smith, that in the treatment of typhoid fever there were mainly needed three things, "a vial of laudanum, a bottle of turpentine and a hog's-head of buttermilk." This is a *propos* to the note printed on page 907 of our last volume, where we quoted the recommendation of Dr. H. C. Wood in favor of a return to the turpentine treatment of fifty years ago.

A RUSSIAN ANTHROPOLOGICAL PRIZE.—Dr. Parnowski, a female physician of Russia, has recently been awarded a gold medal, as a prize, for

her essay on the anthropology of prostitutes and female thieves. The award was made by the Moscow Society of the Friends of Natural Science, Anthropology and Ethnography.

KINGS COUNTY MEDICAL ASSOCIATION.—The anniversary meeting of this society was held at Brooklyn, N. Y., January 13, when the following officers were elected for the ensuing year: John D. Rushmore, president; A. R. Paine, vice-president; John R. Vanderveer, treasurer; J. C. Bierwirth, Secretary; H. B. Reed, corresponding secretary and S. H. Benton, member of executive committee.

A NEW SECRETARY FOR THE SECTION OF STATE MEDICINE.—Dr. Benjamin Lee has been appointed Secretary of the Section of State Medicine of the American Medical Association in lieu of Dr. Bascum, who has resigned on account of ill health. Dr. Lee requests that all physicians desiring to participate in its discussions or to present papers should forward him their names as early as possible. All papers should be in his hands not later than April 15th, 1891. Dr. Lee's address is 1532 Pine St., Philadelphia, Pa.

FOR A WOMAN'S SCIENTIFIC COLLEGE.—Dr. Henry Muirhead, recently president of the Glasgow Philosophical Society, has bequeathed the sum of \$125,000 for the erection and endowment of a scientific college which shall be devoted entirely to the instruction of women in surgery, dentistry, electricity and chemistry.

THE CHICAGO POLICLINIC.—Experimental work with Koch's lymph has been in progress for two weeks or more at this institution. A number of typical cases of tuberculosis have been selected, and the results as they shall be reached will be under the observation of men alike competent and reliable for the rendering of just conclusions. It is yet too soon to record results; when ample trials shall have been made, our readers will be interested to know the measure of their success.

A MODIFIED PROGRAMME.—In the absence of Dr. Norman Bridge, the Faculty of the Chicago Post Graduate Medical School invited Professor Gibbs, of the Michigan University, Ann Arbor, Mich., and Professor E. L. Shurley, of the Detroit College of Medicine, to occupy the evening assigned to Dr. Bridge in the regular

course of lectures, and to give their views of the pathology and treatment of phthisis pulmonalis.

It will be remembered that Dr. Gibbs ignores the bacillus as the primal cause of phthisis, and that Dr. Shurley is conducting a series of experiments upon animals, by means of inhalation of chlorine gas in the presence of the vapor of chloride of sodium, the results of which he is as yet not prepared to state.

An invitation to the medical profession of Chicago to listen to the addresses of these gentlemen met with a prompt and general response, and a large audience of the leading physicians of Chicago was in attendance. Such reports as we were able to secure of their impromptu addresses will be given in a later issue of THE JOURNAL.

THE MARITIME MEDICAL ASSOCIATION.—This is the fitting name provisionally adopted for a new Canadian medical society which will organize in July, 1891, at St. John. Three great seaboard provinces have united for its formation in the hope of creating a powerful body in influencing medical legislation and strengthening the profession within and without. According to the *Maritime Medical News* the following officers of organization have been chosen: President, Dr. William Bayard of St. John; Vice-President for New Brunswick, Dr. Thomas Walker of St. John; for Nova Scotia, Hon. Dr. D. McN. Parker of Halifax; and for Prince Edward Island, Dr. Richard Johnson of Charlottetown; Secretary and Treasurer, Dr. Arthur Morrow of Halifax; Local Committee, Drs. Bruce, Daniel, Christie and Hetherington. The time and place of meeting corresponds with the annual session of the New Brunswick Medical Society, by which the initiative of this movement was made in 1888. The older provincial societies will not be interfered with by the new Association.

THE MARITIME MEDICAL NEWS.—This bright little journal is launching forth, with the beginning of its third volume, in the form of a monthly. Its able editor is Dr. Arthur Morrow, Argyle street, Halifax, N. S.

GERMAN CONGRESS OF INTERNAL MEDICINE.—The tenth Congress of Internal Medicine will be held, April 6 to 9, at Wiesbaden, under the presidency of Dr. Leyden of Berlin. Fürbringer of Berlin, with Naunyn of Strasburg, will introduce the clinical relations of hepatic calculus;

Fraenkel and Vierordt will treat of angina pectoris, while addresses will be presented by Schott and Kahler.

MEDICAL ITEMS.

EARLY MARRIAGES IN INDIA.—The Government of India has decided to legislate on the subject of the age of consent by a simple amendment to the penal code, substituting the age of twelve for that of ten. It had been wisely determined to couple the announcement with the assurance that no interference with social or religious customs affecting early marriage is contemplated, a course which it may be hoped will satisfy those who saw in the suggested reform a covert attack on ancient customs.

THE KOCH TREATMENT IN LEPROSY.—The condition of the three lepers recently inoculated at Madrid with Dr. Koch's liquid in the Hospital of St. Jean de Dieu is stated to be satisfactory.

PROFESSOR VIRCHOW, lately elected by acclamation an honorary member of the Regia Accademia Medica di Roma, has just acknowledged the compliment paid to him in a letter to the president, Dr. Guido Baccelli—"I am proud and happy to find myself so united by a new tie to Italy—proud to be affiliated in Rome to a body so learned and so distinguished, happy to feel myself among new friends."

CHICAGO AS A PLACE FOR DOCTORS.—The secretary of the Illinois State Board of Health, in his recent quarterly report, states that there has never been such a rush of medical men to Chicago as during the past three months. More than two-thirds of the certificates issued were to physicians who wished to practice in Chicago. And never before in the same length of time have so many professional frauds attempted to obtain a foothold in Chicago. It is evident that the increase of population, and especially the coming World's Fair, are the attractions. Eleven applicants were refused licenses because they had diplomas from schools not in good standing, because their professional records had been tarnished elsewhere, or because they could not comply with the requirements of the Board. The anxiety to settle in Chicago is also manifest in the incorporation of so-called medical companies, medical associations, and dispensaries, thus taking advantage of the lax laws and attempting to evade the Medical

Practice Act. New York, not having the World's Fair, will take pleasure in sending on her medical men that will not be missed here.—*Medical Record*.

PROPOSED MEDICAL LEGISLATION IN PENNSYLVANIA. The present registration law of Pennsylvania is said to be almost a total failure. According to the *Times and Register* another attempt will be made during the coming session of the Pennsylvania legislature to procure the passage of an act creating a Board of Medical Examiners. The proposed bill places the appointment of members entirely in the hands of the governor; the only restrictions to this choice being those relating to legality and date of graduation, and freedom from alliances with medical colleges. A new clause provides that no two of the nine examiners shall be residents in the same county. This opens the field to the country members, and cuts Philadelphia, with her 2,000 physicians out of 8,000 in the State, down to a single representative.—*Med. Record*.

MRS. FOGG'S BEQUESTS.—By the will of Mrs. Fogg, the widow of a rich merchant in the China trade, the New York Hospital receives \$20,000, the Metropolitan Hospital \$10,000, and the Children's Aid Society \$55,000; and among the many other institutions benefited are the New York Diet Kitchen and the Training School for Nurses of Bellevue Hospital. The largest bequest is to Harvard University, namely, \$200,000 for the erection of an art museum. In addition, Mrs. Fogg bequeaths her late husband's Japanese and East India collection, valued at \$100,000, and the sum of \$20,000, to be applied to the current expenses of the museum and the purchase of works of art.—*Boston Med. and Surg. Journal*.

THE seventh annual meeting of the Fifth District Branch of the N. Y. State Medical Association will be held in Brooklyn on Tuesday May 26th, 1891. All Fellows desiring to read papers will please notify the Secretary, E. H. Squibb, M.D., P. O. Box 94, Brooklyn.

The Journal of Inebriety says: "The physician of all others should be the last one to use spirits in moderation or excess. The use of alcohol as a beverage, is direct evidence of ignorance of the teachings of modern science, and failure to keep up with the growth of medical advance."

TOPICS OF THE WEEK.

FERDINAND COHN AND ROBERT KOCH.

At a time when all the world is talking or has just been talking about Robert Koch, the following word portrait of him by a distinguished man of science who has known him for many years is likely to interest many. It is from the January number of the *Deutsche Revue*, and its author is the famous botanist, Professor Ferdinand Cohn, of Breslau. "When I made Koch's acquaintance," he writes, "he was already the great investigator whom all the world now knows and admires. On the 22d of April, 1875, I received a letter from the district physician, Dr. Robert Koch, of Wollstein, in the district of Bomst, in the grand-duchy of Posen, asking whether I would allow him to visit me in Breslau, and perform before my eyes the chief experiments relating to anthrax and its characteristic bacilli, the history of the development of which he believed he had now discovered after prolonged investigations, and with it the etiology of that destructive disease. I had been myself engaged for years past with bacteriological investigations, and had consequently often received announcements from dilettanti of their alleged discoveries in that field, which was then being cultivated with but little precision; the expectations, therefore, which that letter from an utterly unknown physician in a Polish country town inspired in me, were of the smallest. I of course wrote, however, that I should be very glad if Herr Koch would visit me and show me his things ("seine Sachen"). Koch came to my institute on April 30, and I can truly boast that in the first hour of our intercourse I recognized in him an unequalled master of scientific investigation; his method, proceeding with rigid consistency from step to step, the elegance and certainty of his experiments, the classic clearness of his statements, were all as perfect in his first, then just completed, work on anthrax as in all his later researches. For Koch's works are distinguished from those of most investigators by the circumstance that he does not publish them till they are finished to the last point. Others cart up stones to be used in the building up of science, or draw a new plan or add a new wing, a new story, a new roof, but they finish only the brickwork, and leave it to others to complete the building and make it habitable. Koch, on the other hand, does not let his scientific fabrics leave his hands till he has made them completely fit in all their details, as well as in the main, for the use of others, who have then nothing more to do than to add this or the other little furnishing. All Koch's works have been so complete in form and contents that nothing remained for those that followed but to confirm them, for it was not possible to add anything essential. Such were the first work of 1875 on anthrax, that on wound infection, the numerous treatises in the communications of the Imperial Office of Health, the magnificent researches on the tubercle and cholera bacilli, and such beyond doubt his latest discovery will prove. On his first visit in May, 1875, Koch stayed only a short time in Breslau, and I availed myself of the opportunity to make my Breslau colleagues personally acquainted with him

and his researches. I then remained for years in occasional correspondence with him. His letters generally filled several sheets. He repeated his visits to Breslau too; and when the place of a medical expert in the law-courts there fell vacant in the summer of 1879, we succeeded in getting him appointed to it, with the prospect of an extraordinary professorship in the University. But already in January, 1879, the medical faculty of the University of Berlin had of its own accord proposed to the Minister Koch's appointment to an extraordinary professorship, and the establishment of an institute for him. Some papers say that Koch wished to establish himself as a private lecturer in Breslau, but was refused permission. That is utterly untrue.

The proposal of the Breslau faculty had been made without Koch's knowledge. His work as a medical expert in the law courts could not satisfy him either scientifically or pecuniarily, and he returned, after a few months, to Wollstein, where his place as district physician had been kept open for him. That he did not remain there long, but was called to the newly founded Imperial Office of Health in Berlin in 1880, did great honor to the German Government, and was of great advantage to science—nay, to all mankind. But if you ask me for reminiscences of conversation with Koch, I can only say that in personal intercourse Koch makes the same overpowering impression as in his writings by the clearness, depth and novelty of his thoughts, only that this impression is greatly enhanced by the simplicity and amiability of his manners, the look of his deep-set eyes, his fine smile, and the euphony of his voice. In conversation with Koch, one is often positively dazzled by occasional remarks or short questions, indicating still unknown researches that he has been working at for years, and revealing new scientific horizons. But of details of the conversation which I and my then assistant, Dr. Eidam, had with Koch, and which sometimes lasted deep into the night, I have no remembrance."—Correspondence of *The Lancet*.

DR. HENRY J. BIGELOW AND THE DISCOVERY OF ANÆSTHESIA.

In a speech delivered at a memorial meeting of the Boston Society for Medical Improvement, on the occasion of the death of Dr. Henry J. Bigelow, Dr. O. W. Holmes said:

Dr. Bigelow sometimes paid me the compliment of asking my opinion of, and my criticism upon, an essay or a lecture he was about to read or publish. On an evening of December, 1846, he called upon me with a paper which he proposed reading the next evening at the regular meeting of the American Academy of Arts and Sciences. He began by telling me that a great discovery had just been made and practically demonstrated in the operating theatre of the Massachusetts General Hospital. He proceeded to read the paper, which was the first formal presentation to the world of the successful use of artificially-produced anæsthesia in a capital operation. He had the sagacity to see the far-reaching prospects of the new discovery, the courage as well as the shrewdness to support the claims of the adventurous dentist's startling, at first

almost incredible, announcement. Every possible effort was made to dislodge the infant anesthesia from its cradle in the Massachusetts Hospital, but there remains the fact that all over the wide world patients were shrieking under the surgeon's knife and saw—operator and victim alike ignorant of the relief in store for them, at the very time when Dr. Bigelow was unfolding in my library the first paper ever written on the subject, and saying to me as he did so, that within a fortnight the news of the discovery would be all over Europe. From the first, Dr. Bigelow was the steady, unflinching advocate of ether as the safest of the anesthetics, and his views, though not universally accepted, have had a very wide and lasting influence.—*Northwestern Lancet*.

MEDICAL EDUCATION IN BELGIUM.

The *Scalpel* is endeavoring to impress upon the more highly gifted of the young Belgian medical graduates the desirability of their forming, as they have the right to do, extra classes for the instruction of students and legally, but not practically, qualified men; also for older practitioners who wish to keep abreast of the latest developments of science. The example of Germany is quoted, where it is admitted that the course of study is much better than in Belgium, no one being allowed to practice without having undergone a "very severe" State examination, but where, notwithstanding, numbers of *privat-docenten* open courses on almost every conceivable subject, to which students and practitioners flock in order to qualify themselves still better for practice. The same kind of system obtains in Paris, where the *agrégés* hold numerous and well-attended classes. In Belgium, however, "owing to the competition in higher education, our Universities, in order to attract students, have only to show themselves more lenient and less severe than their rivals, and they will surpass all others in their student's roll."—*Lancet*.

HEALTH AND LONGEVITY OF ABSTAINERS.

At the last meeting of the British Medical Temperance Association, a paper was read by Dr. C. R. Drysdale, in reply to some doubts as to the superior health and longevity of total abstinents from alcohol. He referred to the report of the Collective Investigation Committee of the British Medical Association on alcoholic habits and mortality, which is still being used extensively by opponents of total abstinence. In spite of the disclaimer of Dr. Owen and the explanations given by others. After quoting the statistics by Dr. Ogle, Mr. Nelson and others, which showed the very high mortality of persons engaged in the liquor traffic, he instanced the results of the United Kingdom Temperance and General Provident Institution, which showed that, from 1866 to 1889, 6,894 deaths, and claims for £1,470,147, were expected in the General Section (non-abstainers), and that 6,645 deaths occurred=96 per cent., and £1,428,671 were claimed in the Temperance Section (total abstinents), 4,542 deaths, and claims for £983,307 were expected, and 3,198 occurred=70 per cent., and £664,832 were claimed, showing an immense difference in favor of the total abstinents.

The Sceptre Life Association was also instanced as having two sections, and in this office in the General Section during the last six years 569 deaths were expected, and 434 occurred=76 per cent.; in the Temperate Section 249 deaths were expected, and 143 occurred, or 57 per cent. At the same time the average age of those dying in the General Section was 51.3 years, and in the Temperance Section 44.2 years—a result, as was explained in the discussion—due to the fact that the average age of abstainers is at present much below that of all males. He also noted the fact that several accident insurance offices reduce the premium to abstainers, the secretary of one having explained this as not so much due to the number of accidents being slightly less, but to the fact that abstainers recover more quickly. He also compared the rates of mortality in the Foresters and Rechabites, showing a constant difference in favor of the latter at every age. The days of sickness per member were for the Rechabites 6.16, for the London Grand Division of the Sons of Temperance 5.5, and for the Oddfellows 10.5 days.—*Brit. Med. Jour.*

MEDICAL SCHOOLS MUST BE ENDOWED.

The following timely words are the conclusion of an editorial in the *Cincinnati Lancet Clinic*, January 3:

The time is rapidly slipping by when medical schools and colleges can be carried on and conducted solely by the enterprise of a faculty made up mainly of hard-worked and often poorly supported physicians. Medical schools must be endowed in order to most efficiently carry on their work. The best teachers are often the most impecunious of men. Their thoughts are not given to the making of money, however necessary this may be, but in other channels they may be doing a much greater and a much better work for the world, than the man who writes his signature as president of a bank or railroad.

There are men, and women too, whose lives have been prolonged and made more comfortable through the skillful application of the art and science of medicine. The presented bill of the attending physician may have been promptly paid, but a debt to science remains unsettled; a science that has made it possible for the attending physician to afford the longed for, the hoped for relief from pain and suffering. Those who are possessed of large means should remember this, and remember that they are but stewards, and that in a broad sense they are their brother's keeper. They are responsible for the well-being and refinement of all the people. They are likewise to be rewarded in unmeasured gratitude for the good deeds they may perform in efforts made to elevate those less fortunate than themselves. Free education is the chief bulwark of our free republic. Free education lessens crime and makes the impossible, possible.

It is eminently just, right and proper, that the entire people should contribute according to their means for the common school education of every child; while there is just as great a moral obligation on the part of the wealthy to contribute of their super-abundance towards the higher educational schools. Among these the medical schools are among the most important, and their claims should be set forth by those who know them best.

Physicians should present this subject to their clients at every opportunity.

PRACTICAL NOTES.

SULPHONAL IN DIABETES.

Dr. Casarelli, of Pisa, mentions the favorable action of sulphonal in diabetes (*Lancet*). The drug diminishes the quantity of sugar in the urine, also reducing the polyuria and the thirst. These results were obtained by doses of from 5 to 30 grains per diem, but not to so marked a degree as with doses of 45 grains continued for several days. The 30-grain doses could be administered for some time without any ill effects; but although the 40-grain doses at first caused no disturbance, it was found that, when they were continued for any lengthened period, they caused giddiness and excessive sleepiness, which disappeared when the drug was discontinued.—*Medical Record*.

CHRYSAROBIN IN HÆMORRHOIDS.

A Paris correspondent of the *Pharmaceutical Record*, April 7, 1890, states that extraordinary success has been reported with chrysarobin in the treatment of hæmorrhoids. For the external variety he prescribes the following ointment, to be applied several times daily after a washing in a 1 to 50 solution of phenic acid, or a 1 to 100 solution of creolin: Chrysarobin, 80 ctgr.; iodoform, 30 ctgr.; ext. belladonna, 60 ctgr.; vaseline, 25 gm.; for external use. For internal use, the formula is as follows: Chrysarobin, 8 ctgr.; iodoform, 2 ctgr.; ext. belladonna, 1 ctgr.; cacao butter, 2 gm.; make one suppository. In three or four days pain and hæmorrhage are said to disappear, and it rarely happens that the most obstinate cases are not cured within two or three months.—*College and Clinical Record*.

CREOLIN IN ERYSIPELAS AND ECZEMA.

Dr. Rothe (*Attenburg; Memorabilien*, 9; *Brit. Journ. of Derm.*, November, 1890), has used in the treatment of erysipelas a creolin ointment containing creolin 1.5, cret. præp. axung porc., $\bar{a}\bar{a}$ 15.0, ol. menth. pip. gtt. v. This is spread in the thickness of the blade of a knife over the diseased parts twice or three times a day, a thin layer of cotton wool being applied as a covering. In from twelve to twenty-four hours improvement was always apparent, and the disease was cured in three or four days. The same ointment also did good service in a case of weeping eczema of the face, as also in several cases of eczema in children. A patient suffering from scabies was treated with a thorough washing with soft soap and inunction of this ointment, with such a decided effect, that Dr. Rothe considers creolin to be undoubtedly a specific for eczema.—*British Medical Journal*.

ICHTHYOL IN THE TREATMENT OF GONORRHOEA.

Köster (*Wiener Medizinische Presse*, November 23, 1890) writes enthusiastically of the use of a 1-per cent. solution of ammonium sulph-ichthyolate in gonorrhœa. He has used it in three cases of gonorrhœa in men and in one case of gonorrhœal cystitis in a woman. In the cases of gonorrhœa he employed injections of the solution three times daily. On the second day of treatment the painful micturition and the painful nocturnal erections disappeared. The discharge ceased permanently in from four to twenty days.

In the case of cystitis, in which the symptoms were severe, four and one-half ounces of the solution were injected twice daily for eight days by means of an irrigator, the solution being retained in the bladder for five minutes, and then permitted to escape through the urethra. After the second day of treatment the pus disappeared from the urine and there was no longer severe pain.—*Medical News*.

SOLVENT FOR DIPHTHERITIC MEMBRANE:

- R. Pepsinæ, 5 jss.
Ac. hydrochlor. dil., \mathfrak{m} j.
Aq. dest.,
Glycerinæ, $\bar{a}\bar{a}$ $\bar{\bar{5}}$ ss. \mathfrak{xx} .
Sig. Paint.

—*Canada Lancet*.

BRONCHIAL ASTHMA:

- R. Ammonii iodid., 5 ij.
Extract. grindeliæ robust. fluid., f $\bar{\bar{5}}$ ss.
Extract. glycyrrhizæ fluid., f $\bar{\bar{5}}$ iv.
Tinct. lobeliæ,
Tinct. belladonnæ, $\bar{a}\bar{a}$ f 5 ij.
Syrup. tolu, q. s. ad f $\bar{\bar{5}}$ iv. \mathfrak{xx} .
Sig. A teaspoonful t. d. Extra dose to be given during a paroxysm.

—*Amer. Journ. of Med. Sciences*.

SOLUTION FOR THE ECZEMA OF DENTITION:

- R. Hydrochlorate of cocaine 2 grains.
Bromide of potassium 15 grains.
Pure glycerin
Distilled water } of each $\frac{1}{2}$ ounce. \mathfrak{xx} .

Rub thoroughly together, and apply to the parts with the soft part of the finger. If insomnia is present, owing to the itching produced by the eruption, a teaspoonful of a syrup made up as follows will be found useful:

- R. Bromide of potassium 7 grains.
Syrup of orange 1 ounce. \mathfrak{xx} .

For the cure of the condition, an ointment composed of oxide of zinc, 1 drachm, and vaseline, 3 drachms, may often be employed with advantage.

—*Medical News*.

EXCESSIVE MENSTRUATION.

- R—Ergot dialysat, 5x.
Glycerin, 5v.
Acid salicylic., gr. xxx.
Aquea destillat., f $\bar{\bar{5}}$ ijss. \mathfrak{xx}

Sig. Inject into the rectum once a day a teaspoonful of this mixture, diluted with three teaspoonfuls of water.

SOCIETY PROCEEDINGS.

Allegheny County Medical Society.

Special Meeting, November 18, 1890.

W. S. FOSTER, M. D., PRESIDENT, IN THE CHAIR.

ENORMOUS DROPSY OF THE BELLY.

DR. LANGE: I have a patient here, aged 48 years, who has been sick 18 months. I present him because I believe him to have the largest amount of ascites ever recorded. He has interstitial hepatitis, or cirrhosis of the liver, and was tapped this morning, this being his ninety-ninth tapping, at each of which there has been evacuated from four to six gallons of serum. A year ago he required tapping every two or three days; at the present time we tap him once in five days. Once he went six days. Averaging the evacuation of serum at five gallons at a tapping will give a total of 495 gallons of serum which we have drawn from this man, or twelve and a half barrels, counting forty gallons to the barrel. His general health is moderate. As you see, he does not look very anæmic. He is not very sick. His functions are all fairly well performed. His appetite and digestion are fairly good and he sleeps well. If he could get rid of his dropsy, he would be in comparatively good health. He has no complications. His kidneys are normal; the same is true of his heart, and he has no pachymeningitis. The reason he has a greater amount of ascites than is common in cirrhosis of the liver, is because his collateral circulation is not as good as it usually becomes early in this disease. This lack of development of the collateral circulation is the cause of his greater than ordinary amount of dropsy. The blood in his portal vein being denied admittance to the liver, greatly over distends the mesenteric veins, and this intra-venous pressure is the direct cause of his dropsy. The collateral circulation established is by anastomosis of the mesenteric with the abdominal veins, the coronary vein of the stomach with the veins of Glisson's capsule on the one hand, or with the phrenic veins on the other, the internal hemorrhoidal with the hypogastric, and finally, as pointed out by Baumgarten, enlargement of the not yet obliterated umbilical vein in the ligamentum teres. By all these ways the blood from the portal system reaches the abdominal veins—a direct reverse to the normal, and the greater or lesser perfection of this collateral circulation determines a small or a large ascites. In this case the abdominal veins, and the caput Medusæ, too, are not as large as usual, and as a consequence, the dropsy is so much larger. If this collateral shall improve, his dropsy will become more moderate; if it become perfect, this dropsy will disappear. But we do expect this latter to happen. Dr. Flint reported two cases in which it did happen. But this

is rarely the outcome of this disease, and we do not expect so favorable an ending. We expect, however, that his circulation will improve, and that he will then have a moderate dropsy only, and will have a fair degree of health and perhaps again become a useful member of society.

CASE OF LUMBO-COLOMOTOMY.

DR. LANGE: The other case is of lumbo-colotomy for cancer of the rectum. This lady is 47 years of age. The cancer was removed last April. Its return, however, was very rapid, and necessitated this operation, which is rather rare, forty-seven cases being all I can find recorded. The lady whom I will show you in a few moments passed absolutely nothing through her rectum for a period of seven weeks. She was so tender and distended that peritonitis was suspected. She vomited constantly, could take no nourishment nor drink three weeks before consent to operation could be obtained. It was obvious that she must die or submit. The operation was done 6 weeks ago to-day. There was no peritonitis. The only drawback that she has experienced is prolapse of the gut, which she now prevents by this little cushion and bandage. She has grown strong and eats and sleeps well. The operation was done with the observation of all antiseptic precautions—until the opening of the gut. Two double ligatures were passed through the gut before it was opened, and by them it was lifted to the surface of the wound. It was then opened, and so great was the discharge of fecal matter, that the whole wound was soiled. The opening into the gut was 1½ inches long, and the edges were secured to the skin by eight sutures. All the sutures, however, suppurated out, and after ten days there was no union between the gut and the skin. This is not to be expected in this operation. The sutures are only intended to temporarily hold the gut in position until there is union deep in the wound between the muscles and fasciæ, and not the edges, but circumference of the gut. This is here, as you see, perfect, and no danger that the gut may recede exists. I am indebted to Drs. Hamilton and Herron for advice and assistance during the operation.

DR. BUCHANAN: I would ask Dr. Lange whether he took into consideration the advantages of inguinal colotomy, the drawing of the sigmoid flexure of the colon forward, and making an anterior instead of a lumbar incision. This operation would answer as well as the operation which he performed, and it has the great advantage that one is able to make it an antiseptic operation throughout, which he was not able to do in this case. Of course this case turned out as well as could be wished. But by bringing the gut through the abdominal walls and keeping it there until adhesions have taken place before it is opened, he gains a perfect adhesion without dan-

ger of soiling his wound. Then when adhesion has been established, the gut is opened and its contents allowed to escape. It seems to me this is rather a better operation than the lumbar operation, and safer, and the control of the feces is very much better than in the lumbar operation.

DR. LANGE: Answering the doctor, I would say that the operation in front involves opening the peritoneal cavity; the lumbar region does not. Until in the last few years it has not been considered superior to the lumbar operation. This has come, of course, because of antisepsis. The lumbar operation should be absolutely safe, because the probability of opening the peritoneum is just about as great as of entering the peritoneal cavity by puncture of a full bladder. It sometimes happens that in the puncture of a full bladder the peritoneum is opened by the trocar, and the opening of the gut in the lumbar region is on a par with that for danger. There is very little danger. The operation in front, it seems to me, is more dangerous, despite all antisepsis, because of the opening of the peritoneum. I understand Dr. Buchanan to advise waiting some days for adhesion after opening the belly, before opening the gut. There was no time for that in this case. The operation was postponed by the patient as long as it was possible. When it was absolutely necessary to have it performed, with death as an alternative, she consented to it.

DR. ALYN: At the last meeting Dr. Bane read a paper relating a case of an hysterical child. I have seen a case quite similar. A girl 14 years old, recovering from sickness, complained of her eyes failing her in reading. She was taken to a physician, and finally came under my charge. I put the card the proper distance; she failed to see anything with any clearness. Putting on glasses of different strengths, I reduced the strength to plano. Then she read the card perfectly. Taking the glasses off, she no longer saw anything. Fearing there might be paralysis of the ocular muscles, I tested her for close use. In this case, she saw nothing until glasses were applied and finally reduced to plano, when she read diamond type with perfect ease. I told the mother nothing was the matter practically with the eyes. I told her the girl had hysteria; and since that time she has been taken with hysteria.

DR. LIPPINCOTT: I saw yesterday morning a similar case. Curiously enough, nearly all the cases I have seen have been girls of about 10 years. I do not think they vary more than a year or two either way. This child that I saw could not see, apparently, any letters across the room at all. By putting up the large letters which can be read at 200 feet, she managed to read. The next size she thought she saw dimly. She called M, I. I thought instantly she was shamming, as her answers were not compatible, and I got her confused by giving her a whole battery of

questions and answers at once. She was thrown off her guard and saw the very finest letters. These cases are not very uncommon. I have seen half a dozen. This child yesterday was a type of a pretty large class. Dr. Holland, of Philadelphia, called attention to this a number of years ago. I think the majority of cases are in girls, showing that the trouble is probably hysterical.

DR. T. D. DAVIS: The following cases will illustrate

THE WONDERFUL RECUPERATIVE POWER OF THE HUMAN SYSTEM.

John T., a young Italian, æt. 20 years, was admitted to St. Francis' Hospital with a badly crushed ankle. With the hope of saving the foot, it was put at rest and the usual treatment applied. The tarsal bones, however, were so badly crushed that they failed to unite. After some weeks sinuses formed, and spicula of bone being discharged, he was put under an anæsthetic and a quantity of diseased bone removed, but without much benefit. He came under my care about nine months after the injury. He was thin, pale and much reduced in strength. His ankle was enormously swollen, with numerous openings of sinuses, from which flowed copious discharges of unhealthy pus. He had persistently refused to have the foot removed, and it was only when he was compelled to choose between his foot and death, that he consented to an amputation. I first tried a Syme, but so fearfully disorganized and pus-infiltrated were the tissues that they separated by their own weight. Finding the articular portion of the tibia also diseased, I finally amputated at the middle of the leg, using only the antiseptic precaution of clean instruments and boiled water. The wound healed by the first intention, and in ten days I found him being measured for an artificial leg. From the day the foot was removed he improved in weight and strength.

Case 2 was also a young Italian, who was admitted to Mercy Hospital with a compound comminuted fracture of the lower third of the leg. The lower portion of the tibia projected an inch or so through the wound and was impacted there. He had been injured three weeks before, and one week of the time he had spent in the Homœopathic Hospital. His friends had taken him home from there and I suppose had tried to cure him themselves. When I saw him first he was fearfully reduced, with an immense bed-sore on his back, half of his foot gangrenous and emitting a most sickening odor. The wound at the seat of fracture was in a most foul and unhealthy condition. Pus had infiltrated the tissues in every direction. He was given $\frac{1}{4}$ gr. of morphine hypodermically, the A. C. E. mixture administered, and the leg amputated at the middle. He made a speedy recovery, the leg being healed before the bed-sore. A large phlegmonous abscess formed

over his left breast, but healed promptly after free evacuation and bichloride injection.

Case 3 was a most desperate one. A man 52 years of age was admitted to Mercy Hospital, with a compound fracture of the lower third of the femur. He was emaciated to the most extreme limit, his face haggard and eyes wild, but glazed and sunken in their sockets: his skin cold and moist, and his pulse small, thin, frequent and very difficult to count; his tongue dry and parched, could scarcely be protruded through his bloodless lips. He had an immense bed sore over the lumbar region, extending down to the coccyx and over the buttocks. His right leg below the knee was discolored and had a large, foul ulcer. His left leg was twice its normal size. At the seat of fracture, at the lower third of the femur, were two large openings communicating with the bone, and through which was a rubber tube half an inch in diameter, and at least a yard in length, this extending almost a foot and a half outside of each of the wounds! Below the knee the leg was immensely cedematous and was confined in a large wooden crate, or cradle, extending from the knee to the ankle. At the lower part it had cut through until the tendo Achillis was exposed, although, well padded at the sides! This contrivance, which looked something like the boxes they transport peaches in, was so arranged as to swing the limb, and hence keep up all the motion possible at the seat of fracture. The stench from the wounds was almost unbearable, and they were literally alive with maggots, even the immense so called drainage tube being absolutely occluded with them.

This poor man had been injured nearly five weeks before, and, I say it with shame, had been attended daily all that time, by two men called doctors. He lived about thirty miles from the city, and the day before his "doctor" had told his friends "he had done all he could for him and they had better take him to the city." And he had endured the long trip in this awful condition.

With but the faintest hope of doing him any good, I gave him several drachms of whiskey hypodermatically, and administered the A. C. E. anæsthetic. On examining the wound, we found that the whole thigh was infiltrated with the most putrid pus infested with maggots. Not less than two quarts of this was expressed, as two large sinuses extended, one in front to Poupart's ligament, and the other far up in the gluteal region. These sinuses were an inch or two in diameter, and were surrounded with a foul, greyish-black membrane. The bone was broken in several fragments, which were lying loose in the wound. Although I had not contemplated amputation, as the patient's condition forbade it, yet I thought it worse than useless to try to rally him under his present condition, and so amputated at the upper third of the thigh. I washed the wound with

water so hot that it instantly seared, as it were, the ends of the cut vessels and afterwards drenched the sinuses time and again with water as hot as I could bear my hand in, and dusted the whole freely with iodoform. The flaps, of course, were left open. He reacted slowly, but Dr. McManus gave him hypodermics of whiskey and ether almost every half hour during the night, and enemas of hot milk and whiskey, with all the artificial heat he could get around him. He rallied perfectly, and although his convalescence was long and tedious, he recovered, eventually, with a new lease of life.

It seems astonishing in all three of these cases, and especially the last, that, notwithstanding the great quantity and deadly quality of the pus, nature had so carefully guarded them from pyæmia. It is also noteworthy that, although antiseptic precautions were almost impossible, yet the antiseptic dressings of the wounds certainly had much to do in the success of the operation.

DR. KOENIG: I feel like congratulating Dr. Davis on the result of his surgical interference, but I also feel like asking him to change the subject of his paper. He stated that he simply wanted to give us an evidence of the recuperative power of nature. It seems to me the subject should be the life-saving power of mercury. We have all seen how nature bungles, how she is unable to save life without the aid of the scientific physician. I think we should divide the credit, giving a large portion of it to mercury, or other antiseptics, and less to nature.

To be concluded.

SPECIAL CORRESPONDENCE.

Differential Criticism of the Spinal Cord.

To the Editor:—Nearly three-fourths of a century ago Longlet, by very careful experimental research, concluded that sensory impressions were conducted solely by the posterior column of the spinal cord to the brain, and in his day this theory was generally accepted. Soon after Longlet, or in 1823, Bellingieri demonstrated by experiments on living animals that sensory impressions were conducted to the brain through the gray matter of the cord exclusively.

Flint, in his text-book, p. 678, makes the following inquiries: 1. Does or does not the white substance of the posterior column of the cord conduct sensory impressions to the brain? 2. Does the entire substance of the cord act as a conductor of sensibility? 3. Does both the gray matter of the cord and the white substance of the posterior column act as conductors, or does either one act to the exclusion of the other?

"These questions," he further says, "may now be considered as definitely answered by the most positive and unmistakable results of experiments upon living animals, which leave no doubt with regard to the part of the cord which acts as conductors of sensory impressions." To the first query he says that whatever may be the function of the posterior white columns, they do not serve as conductors of sensory impressions. The sec-

ond question is as positively answered in these words: "When the gray matter is divided with very slight injury to the white substance, sensibility in the parts below the point of section is totally destroyed." And the answer to the third question is deduced from the answers to the first two. What can be more positive!

Again, Ranney, "Applied Anatomy of the Nervous System," p. 300, says, "The sensory fibres found in the posterior root (of the spinal cord) ascend in the column of Burdach for a short distance only, when they pass into the gray matter of the posterior half of the cord."

Other American authors are equally positive in stating that the sensory tract of the spinal cord is the gray matter, and almost certainly that portion of the gray substance near the central canal.

As students of medicine and seekers of truth, we have accepted this without mental reservation.

In opposition, however, to the foregoing, Byron Bramwell, of Edinburgh, in his recent work on the spinal cord, is positively contradictory.

By examining this work it will be found that Figs. 29, 30, 31, 38, 59 and 61, distinctly show the sensory tract of the cord to be the posterior white column, or the column of Burdach, and not the gray substance, according to Flint, Hammond, Ranney and others.

The explanatory text in Bramwell confirms the cuts in every instance. I am after the truth, if it is known. Who is right? STEWART LEROY MCCURDY, M.D.

Dennison, O.

Shall The Journal be Removed to Washington?

To the Editor:—I prefer Chicago.

WM. T. CORLETT, M.D.

Cleveland O.

To the Editor:—I have waited until the present before expressing my opinion upon the action of the Trustees of THE JOURNAL, at their late meeting, advising that at the end of the present year, THE JOURNAL should be permanently established in a central office at Washington. The only argument offered in favor of the change was by one of the new Trustees who stated that he voted for it because he was pledged to that course of action before his appointment.

Few know better than myself the events which led to the establishment of THE JOURNAL and its location in Chicago. It was but natural to expect that there would exist a rivalry between the leading centres of our great country for its possession, since it is easy to understand the power and influence which such a journal might exert if made the exponent of local interests. Fortunately for the Association and the Nation, the guardians of the interests of THE JOURNAL, have thus far been enabled to hold in restraint all ulterior influences, and have treated the interests of the different sections of our country with impartial justice.

There can be no doubt that a very much better journal could have been furnished by the expenditure of a much larger sum of money, but no one can now question the wisdom of the Trustees and the self-sacrificing economic care of our first editor, Dr. Davis, in adopting the "pay as you go system."

In its rapid growth and development, our journal is now justly considered the peer of any of the great weeklies of the Eastern cities, and under wise and energetic control it should become the leading exponent of the best medical thought in America. With such a history and such a promise of future good, what gain is to be expected by a change of location to Washington?

Is it because Washington is the capital city and the centre of the political influences of our country? Some have felt that already the greatest danger to our Association and its journal lies in the fact that a political elec-

tion has entered into its organization and is seeking control. If there is reason for apprehension in this direction, it would be a strong argument for its removal from Washington had it been established there instead of at Chicago.

Is it because Washington is a greater literary, medical, or educational centre than Chicago? We have all watched with amazement the wonderful growth of Chicago, until she has become the second great city of our country, and great as she is in wealth and commercial activity, those who know her best, know that she is lavishing her money upon libraries, art collections, universities, and schools of learning, until we in the East look with jealous eye at our fast departing preëminence. No city in the world has equalled her in growth and prosperity, and none give greater promise for the future.

As a center for ease of access, or for rapid distribution, Washington offers nothing in consideration. Whatever else may be said of medical journalism in common with every other publication, it must be considered as a business enterprise. "Can it be made to pay?" was the doubtful question asked at the baptism of our journal. "What are the profits already?" is the query meeting every suggestion for improvement, and "is it possible to defray the necessary expenditure?" The income of THE JOURNAL is dependent upon two factors, the subscription list and the advertising sheet. Can the Trustees show that in either respect the income is likely to be increased by its removal to Washington? The subscription list will depend, in a very large degree, upon the character of THE JOURNAL, and no one can doubt that its interest and value can at least be made equal in its present location to that of any other. I do not suppose that any one will advance the argument that it is really necessary to remove THE JOURNAL to Washington in order to provide for it a competent editor.

It is equally clear that THE JOURNAL can be published as economically in Chicago as in any other of the great centres of our country.

When we take into consideration the legitimate income to be derived from the advertising department, it requires little proof for the demonstration that the larger the local centre from which a journal emanates, the greater is the value of that journal for advertisers. On this account our journal is especially fortunate in having its home in Chicago, and we cannot help thinking that it would be most unfortunate and detrimental to its interests to remove it to Washington.

Boston, New York, Philadelphia, Baltimore, Cincinnati, Louisville, Nashville, St. Louis, each have their medical weeklies dependent largely upon local interests. Remove our journal from Chicago and the field will be open for the establishment of another weekly medical journal dependent in a large degree for its support upon its legitimate advertising.

Let the business interests of our journal continue to be transacted upon strictly business principles; secure for its management the best talent to be obtained and trust the future for its greatly increased usefulness. When the time comes that our finances will warrant the expenditure of a large sum of money for buildings and the accessories for a large publication house, then, and not till then, let the Association discuss the question of an elaborate home. For the present, at least, our Trustees have more vital subjects demanding their attention in increasing the value of THE JOURNAL and making it the worthy repository for the best medical thought and science of the new world.

HENRY O. MARCY, M.D.

116 Boylston st., Boston, Mass.,
January 19, 1891.

To the Editor:—Let THE JOURNAL remain in Chicago. It is certain that the place wherein it is published will largely impress its own character upon it. The fact that

Chicago is not only *the* geographic and railroad centre of our country, but is also a great metropolis, with immense and constantly increasing medical, literary and business interests springing up within it and flowing toward it from all parts of the Union, will give to *THE JOURNAL* an *état* and high professional position, that will add greatly to its power, and widen its influence beyond anything that could possibly be hoped for were it a fixture in Washington.

It is appropriate that the representative of American medicine should have its home in the representative American city, which is Chicago. This city can also place at the disposal of the management a wealth of resource second to but one in this country, and if not now will very soon be first in this respect. In comparison with this anything Washington could ever offer would seem poverty-stricken.

ARTHUR YOUNG, M.D.

Prescott, Wis., January, 1891.

To the Editor:—As an old member of the Association I implore all those who are in favor of its removal to let *THE JOURNAL* remain in Chicago.

D. COLVIN, M.D.

Clyde, N. Y., Jan. 20, 1891.

To the Editor:—As the question of the removal of *THE JOURNAL* to Washington seems to be agitating the subscribers of same at present, I would join my voice with those wishing it to remain in Chicago, as this city will without doubt become the "centre" of the North American Continent in time.

D. L. SAUERHERING, M.D.

Wausau, Wis., Jan. 21, 1891.

To the Editor:—Please record my vote in favor of continuing the publication in Chicago.

GEO. E. FELL, M.D.

Buffalo, N. Y., Jan. 21, 1891.

To the Editor:—In regard to removing *THE JOURNAL* to Washington, I prefer it to remain in Chicago, and believe that the entire membership should have a vote when the question is decided.

FRANK DEVILBISS, M.D.

Spring Garden, Mo., Jan. 24, 1891.

To the Editor:—As the question of the removal of *THE JOURNAL* from Chicago to Washington is forced upon the members of the Association, it is clearly plain to me that Dr. Dimmitt's plan, as offered in *THE JOURNAL* of January 17, is the only safe and true plan of procedure. In this manner alone can all the members have a voice upon this most important question; and it will beat the Australian method of voting altogether.

In my opinion *THE JOURNAL* should remain in Chicago, where it is now prosperous and self-sustaining. Certainly let it remain where it is long enough for the colored gentleman now in the woodpile to get a good crop of wool on his head.

HERBERT JUDD, M.D.

Galesburg, Ill., Jan. 24, 1891.

To the Editor:—Why should the place of publication of *THE JOURNAL* be changed to Washington?

What reasons have we to suppose its financial and editorial success would be more certain in Washington than at Chicago?

Why should the list of subscribers be increased because *THE JOURNAL* is published at Washington?

For what reasons may we expect more business sagacity, and greater editorial skill in its management at Washington, than at Chicago?

These are practical questions, which cannot be answered

by assertions. The success of *THE JOURNAL*, is a fact now, and a certainty; but its success at Washington is neither a fact nor a certainty; but only individual assertions and opinions. If those members of the Association who desire it changed to Washington, will raise a guaranteed fund of \$5,000 a year for five years, there will be a tangible reason for such a change.

As a purely business matter *THE JOURNAL* cannot be changed to Washington, without loss. Who will provide or guarantee against this? This loss may be small, or very serious, no one can determine—but who will take the risk? If *THE JOURNAL* had a surplus fund of \$50,000 it could insure itself but without this, who will be responsible?

THE JOURNAL must be conducted and managed the same as any other business enterprise, on business principles. All changes in its management and place of publication should be based on tangible business principles, and not on individual opinions or personal preferences.

What all members of the Association should have are positive facts that *THE JOURNAL* will be more prosperous in Washington than at present; facts beyond all reasonable question or doubt; then it is a question of business, not of prejudice or feeling.

When such evidences are presented I shall vote for a change, as a duty. But until they are, it is equally my duty to oppose any change that has not the best of business reasons and assurances of success.

T. D. CROTHERS, M.D.

Hartford, Conn.

To the Editor:—The question of the place of publication of *THE JOURNAL* should be discussed frankly, without sectional or personal prejudice, and with reference to these two considerations:

1. Where can *THE JOURNAL*, other things being equal, be best edited?

2. How can *THE JOURNAL*, other things being equal, best serve the highest interests of the Association?

Taking up first the question as to how *THE JOURNAL* can best serve the interests of the Association, the answer is:

1. By not identifying itself with any local interest whatsoever.

Upon this head, one needs only to consult the files to see that *THE JOURNAL* has persistently debased itself to the level of a local Chicagoan journal, both in editorial and news columns. Were it to do the same thing in Washington, Philadelphia, New York or Boston—or any other where—it would be equally reprehensible.

2. By presenting the best work of the best men in America in the columns devoted to original communications.

Whoever the fault may be, one needs only to consult the files, to see that *THE JOURNAL* has not attracted the best work of the best men, North, South, East or West. Undoubtedly it has had very many superior papers from very many superior men—but the proportion of such papers has never been what it ought to be in *THE JOURNAL* OF THE AMERICAN MEDICAL ASSOCIATION—an Association which numbers among its members "the best men in America."

3. By rejecting papers which fail to come up to the high standard of a leading medical journal.

One needs only to consult the files to see papers which present nothing new and nothing useful, and do it in a very tedious manner. No questions of policy should permit the entrance of one such paper into the columns of *THE JOURNAL*, which stands as the representative of the thought and knowledge of the physicians of America. If any of us should read such a paper at a meeting, the editors should be empowered to suppress it, or at least to present it in abstract only.

4. By presenting full, concise, well-edited abstracts of the important communications in other journals, Ameri-

can and foreign; which abstracts should be specially prepared by competent men, and should be reasonably timely in their appearance. Nonsensical and worthless communications to other journals should not be quoted.

One has only to consult the files to see that *THE JOURNAL* has from the first been lamentably weak in this department. Latterly there has been improvement, but even now the majority of the abstracts are second-hand or even third- and fourth-hand—and ridiculously inadequate.

5. By presenting well-informed and thoughtful editorial comment upon questions of importance.

This is and always has been the strongest feature of *THE JOURNAL*, as at present conducted.

Summing up, then, we find that in its present location *THE JOURNAL* has not been *best* edited.

Would removal improve matters? It seems to me that it would for the following reasons:

1. Washington is the National Capital. It belongs to all sections alike, and the temptation to debase *THE JOURNAL* into a local organ would not exist.

2. At Washington the treasures of the Surgeon-General's Library and the National Museum would be at the disposal of the editorial staff. This inestimable advantage to competent editors exists nowhere else.

3. At and near Washington are many of the best equipped students and investigators who could be called upon for special assistance when necessary, and who would have, as already stated, the proper facilities for rendering valuable assistance.

4. As soon as the best men saw that the editorial status of *THE JOURNAL* was raised they would be only too glad to have their best work appear in its columns. North, South, East and West would alike contribute, and North, South, East and West would alike subscribe. Increased revenue would mean ability to improve still further.

5. Only by concentration can the best work be done. America must have a scientific centre. Let New York, Philadelphia, Chicago and other local centres improve themselves to the highest point possible for local centres—and all unite to improve to the utmost the one National centre—Washington.

Finally as the defects in *THE JOURNAL* (which are not now mentioned for the first time, but have been forcibly shown year after year by at least one Western physician of deserved eminence, Prof. Comegys of Cincinnati)—as these defects are not due to the *personnel* of the editorial staff (which could not be better) they must be due to restrictions imposed upon the editors by the locality. These restrictions would be equally great at New York, Philadelphia, Boston or Baltimore, as at Chicago. They would not exist at Washington. With equally good editors, unhampered by locality, *THE JOURNAL* would soon be what it ought to be.

In this very frank communication, I have had no desire to reflect in any way upon the able editorial staff, for I must admit that with the limitations imposed upon them, they have done much better than any one had the right to expect.

SOLOMON SOLIS-COHEN, M.D.

Philadelphia, Jan. 26, 1891.

NECROLOGY.

DR. FRIEDRICH SALZER, of the Vienna School, died suddenly November 30, at the age of 63 years. For twenty years he had been one of the professors of surgery, and in recent years had been chief of the second division of the Allgemeine Krankenhaus to which institution the death of Dr. Salzer will be a heavy loss. He was one of

those fortunate men in whom a consummate surgical skill was joined to a remarkable success in the results of his operations, a conjunction that is by no means always present among those who wield the knife. Salzer did not have the same facility with the pen as with the scalpel, and contributed comparatively little to surgical literature. One of his sons, Dr. Fritz Salzer, is at the present time professor of surgery at the University of Utrecht.

DR. JOHN DAVIS, of Cincinnati, died December 25, aged sixty-six years. He was a graduate of the Medical College of Ohio in 1843. He was prominent in public affairs in his city, having been until quite recently president of the law and order league.

MR. HUGH OWEN THOMAS, the surgeon of Liverpool, died January 6, 1891. He was an orthopaedist of the first rank, whose writings and appliances have long been known in every quarter of the civilized world. In recognition of the value of his accomplishments in his difficult specialty he was elected an honorary member of the American Orthopaedic Association in September last.

SURGEON HENRY M. MARTIN, U. S. N., died in Philadelphia Jan. 16. He was commissioned assistant surgeon March 21, 1870, and made his first cruise in the West Indies in the Congress. He served in the Nantasket and the Colorado on the North Atlantic station, 1871 to 1873, was promoted to passed assistant surgeon in June, 1874; served in the Alert, Asiatic station, 1875 to 1878, and in the Brooklyn, South Atlantic station, 1881 to 1884, and was promoted to surgeon in April, 1884. His last cruise was in the Swatara, Asiatic station, 1887 to 1890, from which ship he recently returned in ill health and was placed on the retired list.

DR. ALEXANDER T. AUGUSTA, who died in Washington, D. C., December 21, was a native of Pennsylvania, and a graduate in 1856 of the Trinity Medical College, Toronto, Canada. He was the only one of his race during the Civil War who received a commission as surgeon, his command being the Seventh U. S. Colored Infantry, which was organized at Baltimore, Md., to serve three years. He, among numerous officers who had distinguished themselves, received a brevet March 13, 1865—in his case that of Lieut.-Colonel, and at once devoted himself to the duties of his profession.

DR. CHARLES A. MILLER, who received his degree from the Medical College of Ohio, in 1862, and who was mustered out of the U. S. Service on expiration of term of service September 13, 1864, as Assistant Surgeon of the 34th Ohio Vol. Infantry, died November 21 at the Longview

Asylum for the Insane, near Cincinnati, O. He was born in Hamilton County, Ohio, and educated in Cincinnati, where he engaged in practice, soon after the war, and there remained until appointed Superintendent of the Longview Asylum nine years ago. Dr. Miller was a naturalist of national reputation and had one of the finest geological cabinets in the country. He had been long in poor health, suffering mainly from diabetes, to which was added a gangrenous condition of one foot. From this latter complication he recovered, but without benefit to his general constitution.

DR. JAMES L. STEWART, of Erie, died December 7, aged 65 years. He was of Scotch-Irish descent and born near Pittsburg. He graduated from the University of Pennsylvania in 1848, and went to Erie just forty years ago. During the late war he served four years as a surgeon of volunteers, having charge during a portion of that time of one of the large army hospitals near Washington. He was prominent in pension matters for many years and in many societies, both medical and charitable. He was repeatedly the president of the medical organization of his county and of the State Medical Society in 1879. He was chief surgeon of the St. Vincent's Hospital and of the county correctional buildings. Surgery was his favorite field of practice, in which he did some notable work, especially in the extension of nerves.

DR. HENRY SALVIN GILL, born in Allston, England, 38 years ago, died in New York of pneumonia, January 16. He was a graduate of the University of Edinburgh and of the College of Physicians and Surgeons, N. Y. He was a cousin of the Archbishop of York.

DR. JOSHUA KENDALL, of Seymour, Conn., died at his home January 19, at the age of 84. He settled in Seymour in 1832 immediately after his graduation from the Castleton Medical College, Vt., and resided there ever since. He was one of the best known men in the county. His death was the result of an operation for the removal of cancer.

DR. JOSEPH PARRISH, of Burlington, N. J., died on January 15. He was a son of the celebrated Dr. Joseph Parrish, of Philadelphia, and graduated at the University of Pennsylvania in 1844. He organized the Pennsylvania Sanitarium for the Cure of the Inebriates, located at Media, and was also at the head of a similar institution in Burlington. He was the founder of the American Association for the Study and Cure of Inebriety, established in 1870, which awakened interest in England, and in 1872 a committee of the Houses of Parliament was appointed to investigate the subject, and Dr. Parrish, and the late

Dr. Dodge, of New York, were summoned to appear and testify as to their knowledge of the treatment of inebriates. He was a member of the American Medical Association since 1847.

BOOK REVIEWS.

EPILEPSY: ITS PATHOLOGY AND TREATMENT.

Being an Essay to which was awarded a prize of four thousand francs by the Académie Royale de Médecine de Belgique, December, 1889. By HOBART AMORY HARE, M.D., etc. Philadelphia and London: F. A. Davis. 1890. Pp. 228. \$1.25.

This little volume is No. 7 of the Physicians and Students Reference Series, and is well deserving of the prize accorded it. The author displays a fair and judicial spirit in treating the many conflicting opinions and theories which confront a consideration of the subject and from an enormous mass of literature has gotten that which is most reliable and of practical value. To anyone having the management of a single case of epilepsy this monograph would be invaluable.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONER'S INDEX FOR 1890. Edited by P. W. Williams, M.D., Secretary of Staff, assisted by a corps of thirty-six collaborators—European and American—specialists in their several departments. 600 octavo pages. Illustrated. \$2.75. E. B. Treat, Publisher, 5 Cooper Union, New York.

The eighth yearly issue of this handy reference one-volume manual is at hand. In its Alphabetical Index of New Remedies and its Dictionary of New Treatment it richly deserves and perpetuates the well-earned reputation of its predecessors. In this volume its corps of department editors has been largely increased, and important papers upon Thermo-Therapeutics, Electro-Therapeutics, Sanitary Science in city and country, and the Medical Examiner in Life Insurance are features of special interest. It is truly a helpful volume, a *résumé* of the year's progress in medicine, keeping the busy practitioner abreast of the times with reference to the medical literature of the world. While there is a generous increase in size and material, the price remains the same, \$2.75.

A PRACTICAL TREATISE ON IMPOTENCE, STERILITY AND ALLIED DISORDERS OF THE MALE SEXUAL ORGANS. By SAMUEL W. GROSS, A.M., M.D., etc. Fourth edition. Revised by F. R. STURGIS, M.D. Philadelphia: Lee Brothers & Co. 1890. 8vo, pp. 173. \$1.50.

The subject matter of this small volume, so generally neglected or not even mentioned by

medical teachers and writers is carefully, plainly and suitably handled by the author. The chapters are on Impotence, Sterility, Spermatorrhœa and Prostatorrhœa respectively, embracing many clinical reports which give vitality to the work. The statement is made that of barre marriages one in six is due to sterility on the part of the husband, an opinion amply sustained elsewhere, the importance of which is self evident. It is possible that undue weight is attached to irritable and sensitive conditions of the deep urethra which, in the author's experience, are almost invariably found, and to the correction of which his energy is always primarily directed. The book is heartily commended to all and without doubt deserves the popularity which has produced a fourth edition in so short a time.

IRREGULARITIES OF THE TEETH AND THEIR TREATMENT. By EUGENE S. TALBOT, M.D., D.D.S., etc. Second edition. Revised and Enlarged with 234 Illustrations, 169 of which are original. Philadelphia: P. Blakiston, Son & Co., 1890. Pp. 261. \$3.00.

When a technical work goes to the second edition its value cannot be disputed. The book is gotten up in an excellent form and the author writes in a smooth, clear style that is often sought in vain in dental writings. The present volume is in number of pages nearly twice as large as the first edition and divided into Part I Etiology, and Part II Treatment. It is readily to be seen that "constitution causes for irregularities of the teeth" is the writer's hobby, and to it he devotes eighty-six pages, presenting in an interesting and readable way a mass of data from a wide variety of sources. Consanguinity, maternal impressions and some kindred topics are made to give support to his theories in a way that the unsettled state of knowledge regarding them scarcely warrants, and the allegation that advanced civilization is largely responsible for dental malformations seems open to debate. The chapters on treatment contain practical and well illustrated directions that can not fail of proper appreciation by practicing dentists.

MISCELLANY.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 17, 1891, to January 23, 1891.

Capt. Edwin F. Gardner, Asst. Surgeon, is relieved from duty at Pine Ridge Agency, S. Dak., and will proceed without delay to Ft. Riley, Kan., and report for temporary duty to the commanding officer of that post. By direction of the Secretary of War. Par. 10, S. O. 17, A. G. O., Washington, January 21, 1891.

Capt. Francis J. Ives, Asst. Surgeon, is relieved from temporary duty at Pine Ridge Agency, S. Dak., to take effect when his services can be spared by the command-

ing officer of the troops there stationed, and will then return to New York City and resume his leave of absence. By direction of the Secretary of War. Par. 9, S. O. 17, A. G. O., Washington, January 21, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending January 24, 1891.

Surgeon R. C. Persons, ordered to the U. S. S. "Concord" February 10.

LETTERS RECEIVED.

J. W. Raeder, Wilkesbarre, Pa.
Dr. Andrew Seargent, Hopkinsville, Ky.
Dr. H. C. Neer, Park Ridge, N. J.
Dr. I. K. Spooner, Lake Preston, S. Dak.
Dr. E. J. Tidd, Clark P. O., Pa.
Dr. P. F. Noel, L. S. Trowbridge, Parke, Davis & Co., Detroit, Mich.
Dr. H. Haberlin, Roberts & Allison, Indianapolis, Ind.
Dr. L. A. W. Allenman, Long Island College Hospital, Brooklyn, N. Y.
Dr. A. L. Hammel, Hance Bros. & White, Dr. R. J. Dauglison, Dr. B. A. Randall, Dr. W. B. Atkinson, P. Blakiston, Son & Co., Philadelphia, Pa.
Chicago Evening Journal, Dr. C. T. Parkes, Dr. F. H. Martin, Chicago Public Library, W. T. Keener, Dr. H. Barnes, Dr. J. C. Hoag, Dr. Geo. Kernahan, Chicago Policlinic, Dr. J. P. Henderson, Chicago.
Thos. Leeming & Co., Maltine Mfg. Co., J. H. Bates, Dr. J. W. Small, Merck & Co., Dr. F. King, Chas. Scribner's Sons, Dr. A. L. Worden, Dr. W. C. Eustis, Jerome Kidder Mfg. Co., The U. S. Mail, Dr. J. A. Lippincott, Western Pa. Medical College, Pittsburg, Pa. The Antikamnia Chemical Co., Rio Chemical Co., Sultan Drug Co., St. Louis, Mo.
Keokuk Medical College, Keokuk, Ia.
Dr. A. H. Graettinger, Milwaukee, Wis.
Dr. C. T. Palmer, Pottsville, Pa.
Dr. E. Holden, West Brooklyn, Ill.
Dr. Frank Kenyon, Scipio, N. Y.
Ward Brothers, Jacksonville, Fla.
Dr. A. J. Willard, Burlington, Vt.
Mrs. J. A. Gorges, Rogers Park, Ill.
G. I. Callan, Dr. C. R. Holmes, Cincinnati, O.
Dr. Frank De Villusi, Spring Garden, Mo.
Dr. Corbea, Givet, France.
Dr. W. H. Coffman, Georgetown, Ky.
Dr. Henry O. Marcy, Boston, Mass.
Canton Surgical & Dental Chair Co., Canton, O.
Dr. W. H. Hitzel, McKeesport, Pa.
Dr. J. E. Jackson, Harper, Ia.
Dr. N. A. Olive, Waco, Texas.
Dr. C. S. Stewart, Amite, La.
Dr. J. W. Freeman, Lead City, S. Dak.
La Semaine Médicale, Paris, France.
Dr. W. T. Parker, Salem, Mass.
Dr. M. A. McBride, Woodville, Texas.
Dr. S. W. Ford, Mount Vernon, N. Y.
Dr. M. H. Burton, Dr. J. P. Marsh, Troy, N. Y.
Dr. E. Hawkins, Greencastle, Ind.
Dr. W. C. Brown, Geneseo, Ill.
Dr. J. J. McCork, Hartford, Conn.
Meyrowitz Bros., Albany, N. Y.
Dr. R. T. Henderson, Jackson, Mo.
Dr. H. H. Beverly, Pilgrim Lake, Texas.
Dr. E. F. Brush, Mt. Vernon, N. Y.
Dr. C. G. Cannaday, Knoxville City, Va.
Dr. Walter Channing, Brookline, Mass.
Dr. A. J. H. Love, Montclair, N. J.
Dr. Wm. T. Corlett, Cleveland, O.
Thos. F. Goode, Buffalo, LaSalle Springs, Va.
Dr. T. Mallett, New Haven, Conn.
Dr. H. B. Burnham, Manchester, N. H.
The Ale & Beef Co., Dayton, O.
Dr. J. B. Andrews, Buffalo, N. Y.
Dr. F. W. Garber, Muskegon, Mich.
Dr. H. K. Tefft, Topeka, Kan.
Dr. E. Paul Sale, Memphis, Tenn.
F. E. Tarbel, Fairhaven, Washington
Clark, Forbes & Co., Niamishburg, O.
Dr. J. C. Sundberg, San Francisco, Cal.
Dr. Robt. McC. Lord, Kansas City, Mo.
Dr. E. C. Kinney, Norwich, Conn.
Dr. H. B. Baguley, Wheeling, W. Va.
Dr. C. R. Martine, Glen Falls, N. Y.
Dr. C. A. Eastman, Winthrop, Mass.
Dr. J. H. Frick, Camden, N. J.
Dr. C. L. Humphreys, Kearney, Neb.
Dr. H. Judd, Galesburg, Ill.

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No 6.

ORIGINAL ARTICLES.

A STUDY OF STERILITY, ITS CAUSES
AND TREATMENT.*Being an Essay which received the First Prize of the Alumni Association of the College of Physicians and Surgeons, Baltimore.*

BY THOS. W. KAY, M.D.,

OF SCRANTON, PA.

INTRODUCTORY.

General Remarks.—"Be fruitful, and multiply, and replenish the earth," was the first command given to man, and it is as binding to-day as it was at the close of the creation, for a neglect of its fulfilment necessarily implies an extinction of the species. It is the desire, unconscious it may be, to fulfil this command that prompts man to seek the society of woman. The late Dr. Carpenter, of England, says "love" is based on the innate desire for offspring. This fact was recognized as early as the time of Soranus, who says, "As most marriages are not contracted for love, but to beget offspring, it is unwise, in the choice of a wife, to consider her social standing and riches rather than her fitness for bearing children."

Sterility is one of the most potent factors in producing domestic unhappiness, and was so as long ago as the time of Abraham, when, having begotten a child by Hagar, Sarai "was despised in her eyes" because of her unfruitfulness.

Historical.—Though Jacob loved Rachel better than Leah, he turned his affection to his less comely wife after she had borne him a son. After having brought forth several children, Leah exclaims: "Happy am I, for the daughters of men will call me blessed. God hath endowed me with a good dowry, for I have borne him six sons." The barren Rachel, feeling keenly her disgrace, cries in her anguish, "Give me children or I die," after which we are told that "the Lord saw that she was hated and opened her womb." Among the ancient Greeks, as among the Jews, sterility was considered a disgrace, and was a frequent cause for divorce, the unfortunate woman being looked upon as a lower, or imperfectly developed, being. Travelers, among the inhabitants of nearly all uncivilized countries, remark that the pregnant women take pains to show, and

frequently point with pride to, their enlarged abdomens. In Angola, says Livingstone, sterility is such a disgrace and such a cause for ridicule, that the unfortunate women are frequently driven to suicide. Pallas states that the well-to-do Circassians give a dowry to their daughters only after they have proved themselves fruitful.

Among the Moslem inhabitants of Turkey, divorces are very common, and in most cases sterility is found to be the cause. It is from the ranks of these unfortunates that the native prostitutes are obtained.

Sterility and fecundity were frequent themes for the ancient historians and poets. In the *Susruta*, a book of ancient India, conception is said to "take place easiest at the menstrual period, for at this time the mouth of the womb is opened like the blossom of the water-lily in the sunshine." In the Bible we find sterility frequently mentioned, and examples of it are recorded, with remedies for its relief. The Talmud also makes many allusions to it and its remedies. Sterility is frequently mentioned, and discussed at some length, in the works of Hippocrates. Celsus, Pliny and Aristotle also devote some space to it, but enter into the subject less fully than Hippocrates. Paulus Agineta has much to say on the subject, and devotes some space to the subject of diseases of the female organs of generation. From the works of Maimonides, we know that the subject was frequently mentioned in the writings of the Arabs.

We see, then, the importance that has been attached to it from the earliest times to the Middle Ages, and from that time to the present the question has been gaining in weight.

But what is it?

Definition.—The term "sterility" is applied to both the male and the female, and must not be confounded with impotence, which indicates a physical inability on the part of the male to fulfil the marital rights.

Sterility may be congenital, where the woman, after reaching the age of puberty, has maintained the marital relations for three years without becoming pregnant; or acquired, where, after having borne one or more children, she remains three years, while subject to intercourse, without re-conceiving. By some the term has, in a wider sense, been applied to all who, though becoming

pregnant, are unable to bring forth a healthy living child.

Some English writers use the term "only child sterility" to designate sterility acquired after the first birth.

In very few fruitful marriages is the first birth postponed later than the third year. Kisch collected the histories of 556 fruitful marriages and found that, in 156 of these, the first birth occurred in ten months after marriage; in 199, it occurred between the eleventh and fifteenth months; in 115, between the sixteenth and twenty-fourth months; in 60, between the twenty-fourth and thirty-sixth months; and in only 26, or 2.6 per cent., did it occur after the third year. Duncan gives seventeen months as the average time between marriage and the first birth for the women of Edinburgh and Glasgow. Ansell places it at sixteen months, and finds that less than 5 per cent. bear their first child after the third year. The justice, then, of classing those women as sterile who have not become pregnant during the first three years of married life, is apparent.

It may also be remarked, from the above statistics, that impregnation at the first approach of the male, the rule in brutes, is the exception in man.

Frequency.—The frequency of sterility is much greater than it is generally supposed to be. Of 495 marriages among the English aristocracy, Simpson found 81, or about 16 per cent., sterile. Kisch inquired into the histories of 626 marriages among the royalty and highest classes of Europe, and found sterility in 70, or nearly 12 per cent. The figures for England are large because of the necessity, among the nobility, of marrying near relatives. Ansell, Sims, Simpson and Wells place the general average of sterility, for marriages in all classes, at about 12.5 per cent. Hedin thinks this too high for Sweden, where he claims only one-tenth of the marriages are sterile.

Grünwaldt has collected some very interesting statistics on this subject. After excluding, from 1,500 women suffering from uterine diseases, all virgins, widows, and those over 35 years of age, there remained 900 married women, of whom 500 were sterile. In about 200 of these the sterility was congenital, while it was acquired in the remaining 300. This gives uterine disease as the cause of 60 per cent. of the cases of sterility, and one of every three married women, who suffer from uterine disease, will become sterile.

One must not always look for the causes of sterility in the female, for, as has frequently been the experience with all gynecologists, after having subjected the female to a long course of treatment, the male has been found to be the one at fault. Of 40 unfruitful marriages, Kehrer found the man at fault in 16, or about 35 per cent., and he claims that in a still larger per cent. the male is the indirect cause by transmitting the gonor-

rhoeal or syphilitic poison to the female, thus setting up changes which militate against conception.

Courty gives the relative frequency of the seat of the causes of sterility in the male and female as 1:10, Duncan gives it as 1:8, and Noeggerath places it as high as 8:14.

Fetal Development of Genital Organs.—To understand fully the causes and treatment of sterility, it is necessary to have, at least, a rudimentary knowledge of the development of the organs of generation. About the end of the third week, after the ovum becomes impregnated, the allantois begins to develop, and communicates, by the urachus, with the primitive intestine. As the sixth week approaches, the urachus dilates in its lower portion, so as to form the bladder, which communicates with the rectum by a canal—the future urethra. The Wolffian bodies are found, as early as the third week, on either side of the primitive vertebrae. At first they act as primitive kidneys, their ducts emptying into the bladder, but later on they disappear, with the exception of a small portion of each, which can be seen, between the ovaries and Fallopian tubes, as the organs of Rosenmüller. Between the fifth and sixth weeks, two small glandular bodies, formed from the germinal epithelium, begin to make their appearance to the inner side of the Wolffian bodies. These are the genital glands, and they are covered by the peritoneum which attaches them, as a mesentery, to the Wolffian bodies. With time, the genital glands develop, and at the end of the sixth week they can be recognized as ovaries. They remain, however, in the abdominal cavity till the ninth month, when they descend into the pelvis. Developing contemporaneously with the ovaries, we find the conduits of Müller, situated in front of and to the inner side of the Wolffian ducts. It is from the upper portions of these conduits, extending from their superior closed extremities to that point where the lumbar ligament is attached to the Wolffian bodies, that the Fallopian tubes are formed. In their lower portions the conduits of Müller unite, in a common body, with the Wolffian ducts, to form the genital cord, in which the conduits of Müller are situated, to the rear and separated from each other by a partition.

The absorption of this partition forms the utero-vaginal canal, in which, until about the fifth month, no distinction can be made between the uterus and vagina. It is from those parts of the conduits of Müller, situated between the genital cord and the lumbar ligament, that the cornua of the uterus are formed. At first there is no lower, external, opening to the intestine, but gradually an involution of the epithelium dips down, and, about the fourth week, the septum disappears. At this time the intestine, behind, and the urachus, in front, open into the common cloaca. About the sixth week, a transverse septum is formed across the cloaca, dividing it into the rec-

tum, posteriorly, and the urogenital opening, anteriorly. The upper portion of the bladder receives the two ureters, while the conduits of Müller and the ducts of Wolff empty into its lower portion. That portion situated between the openings of the four ducts and the point where the bladder empties into the cloaca is the urogenital sinus, which forms the vestibule of the vagina. At the junction of the vestibule and the vagina, a fold of mucous membrane—the hymen—is finally formed, which, partially or wholly, closes the opening to the vagina. From these fetal parts all the organs of reproduction of the female are developed, and, bearing them in mind, it will be easy to account for all malformations of the female genitals, a common cause of sterility.

Ovulation.—No organs of the body exert as great an influence over physical development as the ovaries. At birth they are small, smooth and flat, but as age advances they enlarge, and become oval and tense. This is in large part due to the increase in size and approach to the surface of the Graafian follicles, to allow their easy rupture for the discharge of the ova—ovulation.

Menstruation.—Menstruation usually begins about the same time and accompanies ovulation throughout the child-bearing period. It consists of a discharge of blood and detritus, which comes from the uterus, and is probably due to a disintegration of the uterine mucous membrane, preparatory for the implantation of the ovum.

After ovulation has been established, the ovaries assume a nodular appearance due to cicatrices left after the discharge of the ova, and this condition remains till late in life, when they atrophy and present the appearance of short and thickened bands.

Puberty.—As the time for the first menstrual period approaches we find the breasts enlarging, the nipples becoming more prominent, the vagina growing more roomy, and the uterus increasing in size. The pelvis broadens out, the hips and thighs increase in size and become rounder, and hair begins to make its appearance on the pubes. This is puberty, which indicates the time about which impregnation first becomes possible.

Relation of Ovulation to Menstruation.—The relation of menstruation to ovulation has often been discussed, and is still an unsettled question, but it can be asserted with certainty that menstruation is due to ovulation, while the latter is independent of the former. Conception may take place in girls, before the menses have made their appearance; in nursing women, while they are absent, or in females after the establishment of the menopause. In all women, however, with few exceptions, a suppression of menstruation is established very soon after the removal of both ovaries.

The age at which conception becomes possible

varies greatly in races and individuals. In Persia menstruation is established by the ninth to tenth year; in Syria by the tenth to eleventh year; and on the Guinea Coast by the eighth or ninth year.

Taylor reported a case of conception in a girl of 12 years; Molitor, one in a girl of 9 years 5 months; Rüttel, one in a girl of 9 years; and Kussmaul one in a girl of 8 years. I have met with a case of twins in a girl of 13 years; and I have had reported to me, on pretty good authority, the case of a Damascus Jewess who became a grandmother at 21 years.

Maturation of the female is early in hot, and late in cold countries. Rich food also stimulates, while insufficient or poor nourishment retards it. Girls nurtured in cities, where it is hot and the mental excitement is great, mature at an earlier age than their country consins. Heredity is a most important factor in this connection, and it is not uncommon to know of many successive generations developing at an early age.

Menopause.—The menopause is established between the 46th and 50th years, at which time we see something of a return to the masculine type—the voice becoming harsher, the breasts undergoing atrophy, and more or less hair appearing on the chin and lip. Those influences which have been mentioned as affecting the establishment of menstruation affect also the establishment of the menopause. The length of the child-bearing period is pretty definite, for where puberty is early the menopause will be early, and *vice versa*.

A few remarkable cases of child-bearing at an advanced age have been recorded. Rush reported one in a woman of 60 years; Dewees, one in a woman of 61 years; Haller, one in a woman of 70 years; and Thibaut de Chauvalon reported one in a woman of Martinique of 90 years.

Copulation.—During copulation, in most of the lower vertebrata, the relative position of the two participants is back-to-belly, the part played by the female being passive throughout; but in man she is more of an active agent, this being rendered possible by the belly-to-belly position. This position also brings the most sensitive parts of the genital organs of each sex in contact. The engorged and sensitive clitoris is drawn down by muscular action so as to come in contact with the penis, while the corona glandis of that organ causes friction against the roughened folds of the anterior vaginal wall.

In many married women, and some virgins, I have found that that part of the anterior wall of the vagina situated just behind the symphysis pubis, is as sensitive as, and in some cases more sensitive than, the clitoris. As friction is continued all of the female organs of generation become engorged with blood, and muscular action is excited. The uterus enlarges, becomes more

cylindrical, and straightens out the axis of its canal. Its external os becomes dilated and round, while the plug of mucus normally closing that opening is expelled. With these changes we have a slight descent of the uterus towards the ostium vaginæ, while it is tilted back nearer the sacrum, so as to bring the utero-vaginal axis closer to a right line. When orgasm approaches the contents of the vulvo-vaginal glands is discharged in jets, and the vagina and uterus take on a rhythmical contractile action, which probably assists the entrance of the seminal fluid, as it is ejaculated over the cervix, into the uterine cavity. It is not improbable that the uterine terminations of the Fallopian tubes may also be opened by these rhythmical contractions of the uterus. On more than one occasion I have satisfied myself as to the existence of this uterine action, when making a not over-careful digital examination of very amorous females. In examining a woman with prolapsus uteri, J. Beck noticed that the os uteri, during sexual excitement, opened and closed convulsively, five or six times, after which it became firmly contracted. This rhythmic action has been observed by Brundell in the vaginæ of rabbits, while in heat.

Seminal Fluid.—The seminal fluid, as it leaves the penis, is composed of secretions of the testes, the prostate, and Cowper's glands, with a small quantity of mucus derived from the urethra. If examined under the microscope many different objects are seen, but the moving spermatozoa, only, are necessary for impregnation. These progress, according to Lott, at the rate of 36 millimetres a minute. Mayrhofer claims that for impregnation it is necessary that the spermatozoa be deposited, during coitus, in the cervical canal where the reaction is alkaline. Sims found that they died in the vaginal secretions within twelve hours, but in the cervical canal he found them alive forty hours after intercourse, and Percy reports a case where he found them alive as long as eight and a half days after coitus. The cilia in the upper part of the cervical canal may assist them in entering the uterus, but their passage through the Fallopian tubes is due to their inherent mobility, as the cilia of the tubes move in an opposite direction.

Impregnation.—The seat of impregnation is difficult to settle. In the lower animals it is known to frequently take place in the Fallopian tubes, and the frequency of extra-uterine pregnancy in woman leads us to infer that it may take place in both the tubes and the ovaries. Löwenthal advances the hypothesis that about every four weeks an unimpregnated ovum passes to the uterus and becomes imbedded in the mucous membrane, where it is impregnated or degenerates. If this hypothesis were true, extra-uterine pregnancy would be almost unknown.

Impregnation consists in the entrance of one or

more spermatozoa into the substance of the ovum.

In the ova of the lower animals, where observations can be made with facility, the presence of only one spermatozoon has been recorded, but several spermatozoa have been observed in the ovum of the rabbit. Keber was the first to record, in the ova of the fresh-water muscle, an opening, or microphyte, for the entrance of the male element. This has been observed in the ova of other animals, and the ova of some of the lower orders has the power of throwing out processes, or pseudopodia, with which they seize and draw in the spermatozoa, but none of these phenomena have been observed in the mammalia.

Passage of Ova to Uterus.—The old theory of the fimbriated extremities of the tubes applying themselves to the ovaries so as to receive the ova, is now known to be only partially true. In many animals the distance between the extremities of the tubes and the ovaries is too great to permit of this. It is now a well established fact that the motion of the cilia in the tubes creates a slow current of fluid in both tubes and peritoneal cavity. Oldham, Rokitansky, Scanzoni and others have recorded cases where the serum passed from the ovary of the one side into the tube of the opposite side. This was proved by the absence or closure of the tube on the side where the corpus luteum existed.

Of four rabbits from which Leopold removed the ovaries of the one and the tubes of the other side, two subsequently became pregnant.

When the impregnated ovum reaches the cavity of the uterus, it is arrested by the folds of the mucous membrane, becomes attached and begins to grow, but if it should fail to become impregnated it degenerates and is cast off.

Necessary Conditions for Impregnation.—For reproduction, then, three conditions are necessary, viz.: 1. A production of healthy ova and spermatozoa; 2. The union of the ova and spermatozoa; 3. The implantation of the impregnated ovum in a uterus fitted for its development. All influences acting, directly or indirectly, so as to prevent the fulfilment of one or more of these conditions, will produce sterility.

(To be continued.)

LUPUS.—Peter Eade, M.D., writes to the *London Lancet* as follows: "It seems to be of interest to record the fact, with which experience has long made me familiar; that the external remedy which has proved the most potent and effective in promoting the healing of lupoid ulcers is the common yeast, applied to the sore, either in its pure state or made into a poultice with enough hot, soaked linseed to make the application warm and pleasant, and this used continuously for days or weeks.

THE MANAGEMENT OF MAJOR AMPUTATIONS.

Read in the Section of Surgery and Anatomy at the Forty-first Annual Meeting of the American Medical Association at Nashville, Tenn., May 20, 1890.

BY JOHN A. WYETH, M.D.,

PROFESSOR OF SURGERY, NEW YORK POLYCLINIC; SURGEON TO MT. SINAI AND ST. ELIZABETH HOSPITALS.

The prevention of hæmorrhage is the chief point in the management of amputations. Second to this the preservation of as much of the length of a limb as possible.

I will presume that in this day the question of the aseptic or antiseptic management of all wounds is no longer open for discussion among scientists; and that as to the question of amputating during the period of shock, it is no more permissible when applied to injury of an extremity than when it follows a perforating wound of the abdominal viscera, and where is the surgeon who, except for the arrest of hæmorrhage rapidly exhausting his patient, will add to the shock of accident the shock of deliberate surgical interference?

I desire to submit to you two amputations in major amputations which I have devised and successfully executed:

1. *Bloodless amputation of the hip.*
2. *Bloodless amputation of the shoulder.*

1. *Hip Joint.*—It is well known that the terrible death rate after hip-joint amputation is chiefly due to hæmorrhage. Compression of the aorta or common or external iliac has not rendered the operation less dangerous. The figure-of-eight elastic bandage of Esmarch carried above the iliac crests or around the abdomen, and the transfexion by a single needle passed in front of the neck of the femur and beneath the vessels, over the ends of which a rubber cord is carried only in front of the thigh, as advised by Trendelenburg, or the figure-of-eight rubber spico of

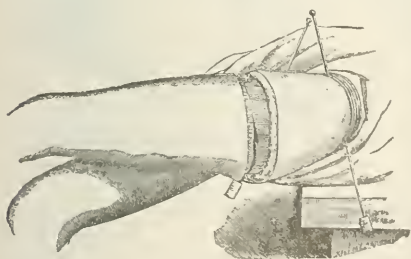


FIGURE 1.

Fourneau-Jourdan, are improvements on older methods, but are far from satisfactory. Without going into the history of this amputation I submit my method as follows:

The patient being placed in position, with the hip of the side to be operated on well over the corner of the table, the foot is elevated and

an Esmarch bandage applied to drive the contained blood toward the heart. The bandage should not be tightly put on over the seat of the disease for fear of driving septic matter into the circulation. With the rubber bandage still in position, the needles are next introduced.

Two steel mattress needles, three sixteenths of an inch in diameter and a foot long, are used. The point of one is inserted an inch and a half below the anterior superior spine of the ilium and slightly to the inner side of this prominence, and is made to traverse the muscles and deep fascia, passing about half way between the great tro-

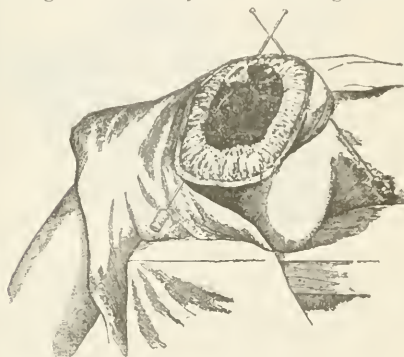


FIGURE 2.

chanter and the iliac spine, external to the neck of the femur and through the substance of the tensor vaginae femoris, coming out just back of the trochanter. About four inches of the needle should be concealed by the tissues.

The point of the second needle is entered an inch below the level of the crotch internally to the saphenous opening, and, passing through the adductors, comes out about an inch and a half in front of the *tuber ischii*. No vessels are endangered by these needles. The points are protected by corks to prevent injury to the operator's hands.

A piece of strong white rubber tube half an inch in diameter and long enough when tightened in position to go five or six times around the thigh, is now wound very tight around and above the fixation needles and tied.

The Esmarch bandage is removed and five inches below the tourniquet a circular incision (Fig. 1) is made, and a cuff which includes the subcutaneous tissues down to the deep fascia is dissected off to the level of the lesser trochanter, at which level the muscles and vessels are divided squarely and the bone sawed through (Fig. 2). All vessels (including the veins) which can be seen are tied with catgut and the smaller bleeding points can be discovered by slightly loosening the tourniquet.

The remaining portion of the femur is now

easily removed by dividing the attached muscles close to the bone and opening the capsule as soon as it is reached. On lifting the end of the bone in the direction of the patient's navel and dividing the cotyloid ligament posteriorly, the air enters the cavity of the acetabulum and greatly facilitates the division of the ligamentum trees (Fig. 3).

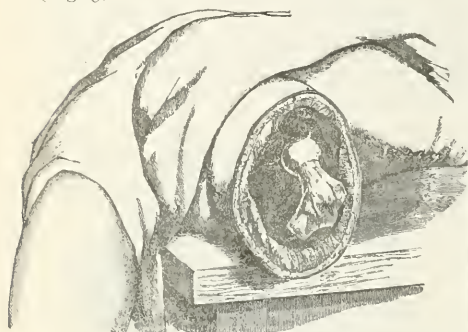


FIGURE 3.

The closure of the wound, with proper drainage, follows (Fig. 4). The entire proceeding requires the strict asepsis of modern surgery.

One other important point I wish to emphasize—viz., the advisability in certain cases of doing this operation in *two sittings*.

In one of my cases the patient was greatly exhausted, and after dividing the femur at the trochanter and securing the vessels, fearing the supervention of shock as indicated by the pulse, I closed the wound, which healed by first intention. At the first dressing (on the seventeenth day), the remaining portion of the bone was removed by an incision over the trochanter major. The recovery was uninterrupted.

I should prefer to complete the operation at one sitting, but cases will occur where the danger of shock may be obviated by stopping short of enucleation, leaving this for a week or two, when reaction and convalescence are assured.

In neither of my cases was there any bleeding, and in two additional operations by this method, very recently performed by two distinguished surgeons of this city, there was perfect immunity from hæmorrhage and rapid recovery. *In fact, amputation at the hip joint is now a bloodless operation.*

2. *Shoulder Joint.*—I have also applied this same method at the shoulder. One needle is made to transfix the anterior axillary fold away from the vessels, and nerves taking firm hold in the tendon of the pectoralis major. The other pierces the deltoid just below the acromion process and is pointed backward. The arm having been emptied of blood, the rub-

ber tube is tightly wound around the shoulder above the needles. A circular skin flap is made and rolled back to within three inches of the acromion, at which point the muscles and bone are divided and the vessels all secured. The tourniquet is removed and the remaining portions of the humerus enucleated.

PRESERVING THE LENGTH OF LIMB IN AMPUTATING FOR OSTITIS AND OSTEO-MYELITIS.

Within two years it has occurred to me twice to amputate just above the knee for osteomyelitis of the femur secondary to destructive osteoarthritis in the knee joint.

Upon sawing through the femur the medulla, broken down to the consistency of thin soup, escaped like so much thin pus. The canal was much larger than normal, owing to absorption of the inner surfaces of the compact substance. In one case I could have crushed the bone easily between my thumb and finger. In these two instances, with a long Volkmann's spoon, I scraped out the canal thoroughly as high as the trochanter where it ended. I then inserted into the canal a rubber drainage tube with a single lateral perforation one inch from the upper or inserted end. This end reached the level of the trochanter minor.

The wound was closed as usual leaving this long tube projecting through the flap opposite the medullary canal. At intervals of from four to six days the canal was irrigated with 1 to 3000 sublimate solution, by forcing it into the end of

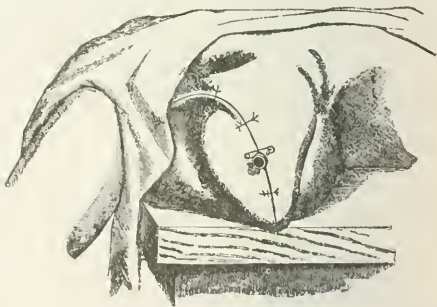


FIGURE 4.

the tube in a continuous stream until it flowed out through the canal outside the tube. The tube was withdrawn from one-half to one inch each week, and the canal gradually filled up with healthy granulation tissue which later was changed into bone.

Both patients recovered with stumps of the fullest possible length.

Although not novel, as I have since learned, I had not known of this method until after it had been put into practice in these two instances.

THE RELATION OF LIFE INSURANCE TO INEBRIETY.

Read before the American Association for the Study and Cure of Inebriety, at the monthly meeting in New York City, Dec. 10, 1890.

BY T. D. CROTHERS, M.D.,

SUPERINTENDENT WALNUT LODGE HOSPITAL, HARTFORD, CONN.,
EDITOR JOURNAL OF INEBRIETY, ETC.

As introductory to a brief study of this subject some general experience will make clear the conclusions which I wish to urge. During the past fourteen years I have been exclusively engaged in the institutional cure and treatment of inebriates. In the large number of persons of this class who have come under my observation many of them have been insured for large amounts in the best life insurance companies of the country. I have no statistics of the exact number, but I am confident that from a third to one-half of all the inebriates under my care carry insurance policies of greater or less amount.

While the object of all companies is to insure only sound healthy lives, it is evident that this is not the fact in a large number of cases. It has come to my knowledge that many of these cases have been insured after they became inebriates. In one case a man who had been twice under my care for periodical inebriety, secured an insurance of fifty thousand dollars, in the aggregate, in different companies. This man has drink paroxysms and requires treatment every year. In another case an incurable son (of an influential man) who had been under my care a number of times, died from pneumonia following a drink paroxysm; insurance policies of thirty thousand dollars were paid on his life. In another case an inebriate of twenty years' duration, secured fifteen thousand dollars in different companies, shortly after being under my care for four months. Within a year he died from some obscure brain lesion, which came from a drink paroxysm. The insurance was paid.

In a general classification of the cases I have seen who were insured, something like the following seems to be very common: The largest class appear to be invalid or silent partners of mercantile houses; broken down merchants or clerks; men who had occupied business positions, or been prominent in professional circles, but have withdrawn for some reason. Most of these cases acknowledge moderate drinking, and give no evidence of excesses in public or in appearances. Many of these cases are secret drinkers, others are periodical and anticipate the paroxysm by providing for its secret indulgence, away from home in some distant city. After the attack they are temperate for a distinct time and give little evidence of their real condition. Often these cases are strong temperance workers, and make a public exhibition of their faith, and after the sudden disappearance to indulge in a drink

paroxysm appear more enthused than ever for the cause.

A prominent temperance lecturer is a good illustration. He has always two or three "drink storms" a year, of a week's duration. The intervals are filled with most enthusiastic work for reformation of others. He has a large insurance policy on his life and is considered a sound, healthy man. In another case a clergyman with rich relatives, has a fifty thousand dollars on his life, and is a prominent prohibitionist, works with great energy and is a leader of much influence. This man has drink paroxysms in secret every spring and fall of the year. Many cases of active business and professional men drink to great excess at irregular times and away from home. They come often to institutions for a short time under an assumed name, and go away restored. These cases always carry large insurance, and no doubt acknowledge moderate or occasional drinking to the medical examiner. In all probability these men recognize the future peril which may grow out of their secret excesses and thus seek protection from insurance.

In some of these cases the companies are at fault, in others the examiners; often the insured parties have not covered up or concealed the fact of drinking, but the drink storms have not been mentioned. Other cases are men of family, without business, having wealth, and living leisure lives. They are wine and beer drinkers at the table and claim to be only moderate users of spirits. Often they carry large amounts of insurance divided up among many companies. Often they are club men who are comparative fast livers, and while they seem not to be excessive drinkers, they are undoubtedly so in secret. They are generally incurable cases when they come for treatment. Recently a man of this class who had consulted me for drink excesses died, and his family received fifty thousand dollars insurance.

These cases are common in my experience. I fully recognize the fact that notwithstanding all the care and precautions of companies and examiners, a certain number of persons will obtain insurance who are bad, dangerous risks. Companies who admit moderate drinkers, and those who leave the question of risks in these cases to the judgment of examiners, will always have a large number of these dangerous risks, and a larger mortality. One such company became alarmed at their death rates, and from the report of a special examiner on risks, over ten thousand, cancelled in one year thirty-one policies of pronounced inebriates, who had been insured as sound and healthy. Another company who had practically refused moderate drinkers, but left the question open and depended on the judgment of examiners, cancelled twenty-six cases of the same character all carrying large policies. The reason for these errors and mistakes is evident from the

medical instruction to examiners by some companies. This is illustrated in the advice to draw a line in cases of moderate drinking at what is termed "Anstie's" limit of daily allowance, "equivalent to one and a half ounces of absolute alcohol; three ounces of ardent spirits; two wine glasses of wine; one pint bottle of claret, champagne, or other light wine; three tumblerfuls of ale or porter; four or five tumblerfuls of ale or light beer." This is the limit of moderation in the use of spirits, beyond this there is risk of health and longevity, and this amount daily does not peril the health or life risk.

In face of the late advances in chemico-physiological science concerning the action of alcohol on the system such instructions are at least very startling. Nothing can be more theoretical, and assumptions, and flatly contradicted by both facts and experience. The attempt to map out lines of health and safety in the use of spirits is literally impossible. Many of the most incurable cases under my care have rarely exceeded one and a half ounces of absolute spirits daily. Many steady drinkers, who are incurable, seldom drink more, and in the majority of cases this is only an early stage of inebriety. Moderate drinking in this country is impossible, in the majority of cases. The excitement and revolutions of civilization, climate and strains, either precipitate the drinker into an inebriate of some sort, or end in acute organic disease. The moderation seen among the people of Europe is *exotic* in this country and only exists a short time, except as a marked exception to the rule. Boundary lines of moderation and health in the use of any form of spirits as a beverage is like drawing boundary lines in the twilight between night and day. From my experience I believe there are many inebriates who could pass a good physical examination and truthfully allege that they drank less per day than this limit of Anstie's.

Recently a gentleman who has had two attacks of alcoholism, with pronounced delirium and delusions, and has drank for years at night at home, was examined and given a large policy. He answered truthfully that he drank moderately, at night, for years. This the examiner thought of little importance for the reason, probably, that he discovered no organic lesions to indicate any injury from this use of spirits. How far such errors of judgment are made in the well appointed companies is difficult to determine, but the assumption that any moderate use of spirits is free from peril, reflects on the business soundness and scientific accuracy of the management of the company. Another source of error is apparent in those companies, where the question of risks is left to the judgment of the medical examiner. As a rule, such examiners are among the best physicians in the country, and while they are thoroughly honest and conscientious, may not be

familiar with the latest teachings of science as to the action of alcohol on the system. The reason of this is, often such men are moderate or occasional users of spirits, and have formed fixed convictions concerning the use and effects of alcohol. Anstie's limit of health and moderation is to them a final truth because along the line of personal experience.

Not unfrequently such men have been followers of the Todd and Bennett school, and their earlier impressions of the value of alcohol are more or less final. Should the medical examiner drink to excess occasionally, he reasons from his own experience, and readily concludes no harm can come from it, and that the will power is sufficient to restrain the use of spirits at any time. If such a man has drank to excess in early life, and had delirium, then abstained in a large degree, his judgment of the impaired health of persons in similar conditions will always be based on his own feelings, and that honestly and conscientiously. Such a man will readily pass an applicant who is a moderate drinker, or one who may have had delirium tremens, who gives no evidence of organic trouble. Such men never read any new literature on this subject; but consider it settled, and all new views fanatical and unworthy of confidence. I have seen such men who challenged me to prove the bad risk of a moderate or previously excessive user of spirits, because they exhibited no evidence of organic trouble. In the South this is more common because the use of spirits is more general; therefore, I conclude that medical men who use alcohol in moderation, or have used it in excess in the past, have "astigmatized judgment," and however acute they may be in other directions, are not, as a rule, capable of deciding the health risk of those who use spirits. The companies can not provide against this, and no exhaustive physical examination can do much to relieve the burdens of such dangerous risks.

To diverge a moment. It is the repetition of all psychological advances, that the errors concerning alcohol, and its action on the system, should "live so long and die so hard." Even today authors continue to repeat theories which never had any real scientific foundation, and even their seeming reality was a mere shadow, which any clear study would have dissipated. Most of the theories respecting alcohol have come down entirely on the respectability of authors, who have repeated them, and are accepted as facts unchallenged and unknown scientifically. While the real facts concerning the action of alcohol can all be put on a single printed page, the literature covers hundreds of volumes.

The question of the use and abuse of alcohol from the standpoint of life insurance should be no theory but one of unquestioned fact. Not opinions or theories, however eminent the authority

may be who endorses them, but facts and conclusions, sustained by every day's experience, and demonstrated with all the certainty of our present knowledge. From this point of view science has but one clear conclusion, namely, moderate drinking in any degree is perilous to health and longevity, and greatly increases the liability to disease. This is a fact that can be demonstrated by figures. If companies continue to issue policies on the lives of moderate drinkers, or persons who acknowledge the use of spirits occasionally or regularly, the rates should be made proportional to the risks. Thus a moderate drinker at twenty would have the same comparative longevity as a temperate man at fifty, and a moderate drinker at thirty would live as long as a temperate man at sixty. These figures bring out the fact that where both are free physically from traces of organic disease, the liability to disease and death in the moderate drinker, at a certain age would be increased to a certain definite rate, represented by age, and he should in strict justice pay for this, the same as hazardous occupations are charged increased rates. While the moderate drinker may not become an excessive user of spirits, there can be no question of his increased liability to disease, and diminished vital resources, also natural capacity to resist disease. In an epidemic the moderate and excessive users of spirits are the first to suffer and die. In accidents the spirit drinkers recover more slowly, have a longer convalescence, and are more like to die than temperate persons. The experience of the accident insurance companies abundantly confirm this statement. Hospital statistics in every large city show that beer and spirit drinkers who seem to be in excellent health and vigor have a limited degree of vital power and a special tendency to acute organic disease from slight exciting causes. They are unable to bear strains and shocks of any kind. They die from apparent inadequate causes, where others suffering in the same way recover.

Recently a moderate spirit drinker, from a fall fractured the femur. He died from shock and fever two weeks later. A beer drinker had his hand crushed and died from gangrene soon after. A spirit drinker suffered a slight exposure from an alarm of fire in his house, and died from pneumonia in a few days. Each of these cases carried life insurance policies and two of them had been insured recently as good risks and healthy cases. When temperate healthy men are insured in a company, and afterwards become inebriates, the policy should not be cancelled or invalidated, unless it can be shown that deception was used when the policy was made out. All such cases should be treated as those suffering from organic disease contracted after the policy was issued, and from conditions and exciting causes that could not have been anticipated when the insurance was placed.

Inebriety, like insanity or phthisis may appear at any time from the application of its peculiar exciting causes, and should be regarded as these diseases are. The theory of wilful voluntary contraction of this state has no support in the scientific history of cases. Recently a temperate and very reputable lawyer became an inebriate after fifty years of age. He had carried a large insurance policy for years and had been temperate up to the time of the drink impulse. One company cancelled his policy, another company more honorable continued its insurance on the promise of the policy holder and his friends, that every effort should be made for his recovery. He finally recovered and is in active life to-day. It is an injustice for a company to refuse to carry out a contract simply because a sudden peril comes to the life of the insured as in this case. A gentleman who had been temperate and well up to the sudden death of his wife, began to drink to great excess. He had fifty thousand on his life, and one large company made unseemly haste to cancel its policy. Later this man died of paralysis; his spirit drinking was only a symptom of this disease. An action was begun against this company and finally settled by a compromise. The failure of this company and its medical examiners to comprehend the first principles of science and equity in this case is a certain promise of their future failure. Another instance where a temperate man, after an attack of typhoid fever, developed acute dipsomania and two years later died of some obscure affection of the brain. Two out of three companies who held policies on his life annulled them, and the medical director of one company was emphatic in his opinion that this man was only giving way to a *vice* which he could stop any moment. This physician was himself a moderate drinker. The third company continued its policy, its management recognizing the purely physical nature of the case. Another question has come to me many times in the past few years. Where men who have drank to great excess and reformed, for years living lives of strict sobriety, apply for life insurance. The physical examination reveals no organic disease and the question of the character of the risk is variously considered by medical examiners and companies. The facts which should govern in these cases are these: The disease of inebriety manifest in excessive use of spirits is thoroughly curable. The effects of the disease such as brain and nerve strain, with cardiac weakness, and lowered vitality, remain. The drink craze and impulse may die out, and the man be a total abstainer for life, but his longevity is impaired, his liability to disease is increased. Correct personal habits and careful hygienic living may do much to restore the lost capacities, and even a most minute physical examination will fail to find traces of this brain and nerve strain, yet they ex-

ist and any strain or exigencies will bring them out again. My advice in such cases is to issue a policy at such rates as are charged old men, along some approximate table of disease and mortality probabilities. The following case illustrates this: A man of good heredity was an inebriate during the war and for some time after, then reformed. Twenty years later he was refused a policy, from the fact that he had drunk to excess for a period long ago. He was forty-eight years of age and free from apparent disease. I think a policy issued at the rates charged for temperate men of sixty-five or seventy would have been fair and just to all. I think no fact is clearer than this, the inebriate and moderate drinker, to a greater or less degree, have and are wasting their vital resources, and ageing themselves beyond all present indications. These injuries do not appear from any coarse physical examination, and when this fact is applied to excessive users of spirits it is not disputed, but it is not so clear in the case of moderated and occasional users of spirits. Yet it is the same only varying in degree. In many ways this fact is sustained by the experiences of the sick room and hospital, and should be fully recognized in practical life. Every advance in our knowledge of the action of alcohol on the brain and nerve centres brings additional confirmation.

Beyond all question there is much confusion in the theory and practice of both companies and medical examiners in this direction. An officer of a large company said that millions of dollars were lost every year from ignorance of the risks in these cases alone. Both companies who issue policies on moderate users of spirits and those who refuse to do so, are plunged into confusion of theory and practice, when these cases appear, they follow lines of action, that are both pecuniarily and morally of damage to both company and insured. From a scientific standpoint there are some general conclusions, which point to a way out of this difficulty, and promise if followed up to develop some new lines of facts of the greatest possible value.

1. The moderate or excessive user of spirits who can pass a good physical examination should be given a policy, on some basis proportional to the length of time he has drunk, and the extent of his drinking. Comparative accurate tables of mortality could be formulated on these cases which would fairly represent the probable duration of life. This would necessitate an accurate study of a large number of such cases, the conclusions of which would be of the greatest value to both science and the companies.

2. Policy holders previously temperate, who become inebriates, should be the object of personal solicitude by the medical examiners, and required to use all rational means for recovery. Failure and neglect on the part of the friends to

use ordinary means for restoration should be the only reason for annulling the policy. This would also require accurate medical examination of such cases, and reveal lines of causes and conditions of disease which would enlarge the bounds of science, and bring a degree of accuracy where doubt and confusion exists at present.

3. Companies who refuse absolutely all policies on persons who have used spirits in the past, or do so at present, attempt too much, and fail in many cases. Such refusal should be based on the results of physical examination, and the question of the use of spirits should be regarded as an increased risk, requiring increased rates. This would prevent the deception and losses which follow, and enable the company to determine many of the questions now left to the changing judgment of its medical examiners.

4. The object of all companies, to minimize the uncertainty and risks of all policy holders, and make the question of the mortality of its insured a reasonable certainty, is a reality when the facts of alcoholic degeneration are studied above the level of opinions and theories. The greatest peril to life insurance to-day is the confusion of theory relating to the nature and action of alcohol. Every policy holder has to pay for this ignorance in the increased rates. The companies are periled, and a degree of uncertainty exists, which a larger and more accurate study of alcohol would remove. Companies whose managers and medical advisers are moderate drinkers, are on the road to failure. Companies who assume that this question is settled and the lines of health and disease can be mapped out, are failures already. Companies who regard this peril from alcohol as one requiring the most careful scientific study, and cautious application of the apparent facts of to-day, will arrive at some rational lines of successful solution of the problem. Finally, the alcoholic question, from every point of view, demands a new and more exact study, to lift it out of the fogs and moss-covered superstitions of the centuries.

MONOMANIA.

Read before the Chicago Medico-Legal Society, December 6th, 1890.

BY HENRY M. LYMAN, M.D.,

PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE, RUSH MEDICAL COLLEGE, ETC., CHICAGO.

Monomania is a term that has long been in use in medicine, but the signification that has been attached to it is rather vague on the part of the general public, especially so in consequence of the fact that it is supposed to denote a form of insanity in which a person is perfectly sane and sound in mind and body on every subject but one, and upon that particular subject he entertains some irrational ideas that dominate his thoughts. That is the popular idea of mono-

mania, but it is well known by intelligent physicians and alienists who have given much time to the study of these cases that there is no such thing possible as a person perfectly sound in mind and body and sane upon all subjects but one. It is recognized by alienists that cases which have been called monomania are persons who are really insane and who are unsound in mind and body, for the one implies the other, and that their insanity and their unsoundness of mind is more especially conspicuous in one or more directions than in others. It is rather an emphatic form of insanity in a particular direction and about particular subjects, than an instance of simple delusion in a sound mind and body. The tendency is to limit still further this term and to restrict the idea that is conveyed by the word "monomania" to a particular class of patients; not characterizing by that term persons who manifest a particular delusion, or system of delusions that are more prominent in certain directions than in others, but restricting the word monomania to those persons, who manifest an unsound mind—unsound as a consequence of hereditary causes—and unsound in a way that produces delusions and false reasoning about certain topics. And in order to do away with the confusion which attaches to the use of the word "monomania," alienists now are in favor of giving it up and of substituting a term that has been long used in medicine, though not made conspicuous in alienistic science until lately; that is the term "paranoia."

The term "paranoia" signifies a disturbance of the mind, and it is employed to signify a consistent derangement regarding particular subjects. Within the last few years there has been a great deal of writing and discussion, and there has developed a good deal of difference among authors as to the restrictions that should attach to the term "paranoia." This difference of opinion, however, seems to grow principally from differences of opinion as to whether there should be a limitation of the use of this term to cases that are congenitally defective, or whether there should be included together with the congenitally defective patients, those that have become defective as a consequence of other diseases of the brain. This opens a very wide door for difference of opinion and discussion as to what shall be the true significance of the term "paranoia;" but you will find a disposition to classify the cases that used to be called monomania into two great categories: those that are congenitally defective, and those that have become defective as a consequence of cerebral disease, or through other diseases than insanity, operating upon the brain in such a way as to produce insane ideas. The great characteristic of the majority of cases of paranoia is delusion. English authors still incline to the use of the term delusional insanity; and a very large number of cases can be assigned to this class, because

there are really very few patients who do not at one time or another exhibit some form of delusion. Nevertheless, I think we are now in a position to restrict the use of the term "paranoia" to persons who are congenitally defective, and who are dominated by one or more systematized delusions, in such a way that their reasoning faculties remain in a large measure intact, and their general health unimpaired to any serious degree; and the principal difficulty in their cases lying in the fact that they reason wrongly from certain data which are presented to their hampered minds.

When we proceed further to examine these cases, we find that they rank themselves into sub-varieties: We will say, there is the genus paranoia; then there are species of paranoia in which certain forms of delusion are most prominent; for example, there are patients dominated by delusions of an expansive character, the delusions which they entertain are those that are frequently termed in medicine "grand delusions." Then, there is another class of patients in whom the delusions are of a depressive character, these approach in many respects the delusions of melancholia; then, there are cases in which the patient takes on the characteristics of both these classes and is dominated by delusions of an expansive character, which are also of a somewhat depressing nature. He is dominated by the idea of persecution, believes that people are in a conspiracy against him, and that his life is being ruined by such persecution. These patients sometimes turn upon their supposed enemies and instead of remaining persecuted they become persecutors. They fancy that they have a mission to set wrongs right and to pursue evil doers, and sometimes they do a great deal of mischief in society. Then again, the delusions may assume an emotional character that is usually either of a religious or of an erotic nature. There are many conspicuous examples in the history of the world of patients whose delusions have been of a grand and noble character, tinged strongly with a religious coloring; perhaps with the consequence that they have played a very important part in the history of the world as religious leaders, as founders of schools of thought, as authors of schemes, for the regeneration and elevation of humanity. Indeed it seems to me rather difficult sometimes to draw the line between a paranoiac of this character and an individual of sound mind and body who is dominated by benevolent impulses, not of unsound character. Again, there are those whose delusions take an erotic turn, and who are impelled by certain erotic notions that do not always assume the form of obscenity or unchastity, but show a preponderance of sexual passion and inclination in some form or other. It is in this way that the disease usually manifests itself. Were time sufficient it would be easy to illustrate the

different forms of paranoia with which we meet, but I will only hint at two or three cases. I think they are cases with which my friends, Dr. Brower and Dr. Church are very familiar, and about which they probably know more than I do, as they have had an opportunity of becoming more fully acquainted with them, and I hope they will give us some particulars with regard to them.

I will allude in the first place to the case of the young man, who on one occasion in this city assaulted a very distinguished actor in the theater, firing a pistol at him from the gallery with the view of committing murder, under the influence of the insane delusion that he was the son of the actor, that he was a gifted tragedian himself, though not recognized by the world, that his mother had been ruined by this actor, and it was his mission, not only to assert his own dignity and superiority as an actor, but to bring to justice the aggressor upon the rights of his family. I think this was a very good illustration of the form of paranoia we sometimes meet, in which there are what we call "grand delusions" of superiority and greatness; and with that, as in this case, may be joined a disposition to right wrongs.

There was another noted case, which I think Dr. Church had under his observation at Elgin. It was the case of Joel Henry Wells, with whose history I am not well acquainted, that is, I am not acquainted with his family history and the hereditary influences that were brought into action in his case. He was a man who was apparently of sound mind and body when I saw him, and evidently gifted with large reasoning powers and great acuteness of observation, adroitness and ingenuity; but, nevertheless, was dominated by a most singular delusion of the grand type. He was really the son of a modest unassuming farmer, but he believed that he was no such person, but the son of a foreign nobleman, and he constructed a most intricate and complicated history to account for all his course of action during a long period of time.

With regard to these delusions there is another point I must mention, that they are characterized by remarkable consistency. Delusions are exceedingly common among insane people, but as a rule their delusions are not homogenous. They arise as the clouds go across the sky, assuming all sorts of shapes and forms, and vanishing as quickly, but it is not so with the delusions of the paranoiac. He starts out with some dominating delusion, and as that delusion proceeds it assumes definite shape and form, and the actions that are based upon that delusion are as consistent as are the daily actions of a person of a sound mind; so that they differ entirely in this characteristic from the ordinary delusions of mania or melancholia, or any other variety of insanity. To distinguish them from the shifting half-formed and impotent

delusions of ordinary insanity they are generally spoken of as systematized delusions. I think Dr. Church can give us in the history of some of his patients very interesting examples of the consistent form which the delusion will take in the brain of the paranoiac patient.

A number of years ago I was visited by a family from the country, respectable people, the father, mother, and a young man of about 22 years of age. The young man appeared perfectly well, there seemed to be nothing whatever the matter with him. I conversed with him and he talked like any other person in a perfectly reasonable way. I could discover in his conversation no evidence of a disordered mind. Why had they come to see me? Conversation with the parents revealed the fact that he was laboring under the delusion that they had become Mormons and were carrying on, as he said, Mormon practices in their house and the neighborhood. Expostulation on the part of his parents and friends produced little or no effect. He would acquiesce in everything that was said, but in a little time his acquiescence would be forgotten entirely, and the delusion would press upon him again. He went to the sheriff of the County, and talked with him about the steps that would be necessary for breaking up this Mormon nest in the household. When I was informed of this delusion I talked with him about it, and asked him if it was true; he said he supposed it was all a mistake, he had thought it was so, but he didn't think it was so now, and probably he was mistaken; he was willing to admit that he had been the victim of a delusion. I cautioned his parents about his condition, told them what it probably meant and what might be the outcome, warned them of the possible consequences of living in such a way; and advised them by all means to have the young man placed in safety. They went away and I heard nothing more of the matter for a considerable time. One day I picked up a paper and read the account of a murder which had taken place in that locality, and learned that this young man was the murderer; he had murdered his mother. He was out at work in the field when he made some excuse, went back to the house, took up a gun and shot his mother dead. The delusion had come upon him in full force, and under its influence he had gone to work to do justice upon his supposed Mormon mother. That is the way with these paranoiacs, they may appear perfectly rational, and may talk in a way to deceive the very elect.

I remember on a notable occasion in the case of Joel Henry Wells, of whom I spoke a little while ago, he was brought into court, and members of his family came to testify before the court that he was a perfectly sane man; but before many days they all admitted that they had been deceived and that he was insane. So these persons may deceive the very elect in a casual conversation. It

may require considerable ingenuity and an extended acquaintance with a patient to detect the existence of a delusion; and when that delusion is presented it will be found so plausible, so consistent in all its parts, that unless you have information in regard to the individual and his surroundings you may be deceived. In the instance of the man just referred to, when he took the stand and told his story he told it in such a consistent, interesting manner that a bystander, unless he knew some reason for disbelieving the narrative, would accept it; the Judge himself was completely puzzled. At last the veracity and probability of the story turned entirely upon the determination of the actual fact of an incident that he related. He told of a marriage which had taken place in a certain church, in a certain city and at a certain time. It happened to be a Roman Catholic church where it is customary to keep a record of such events. The judge at once recognized the possibility of testing the truth of this apparently plausible narrative, so he sent to the church indicated for information as to the truth or falsity of this statement, whether such a marriage had taken place or not. Word came back that no such marriage had ever taken place in that church, and this showed at once that the whole story was a delusion; yet it was so consistent in all its parts that without a knowledge of the history of the patient it would have been impossible for a stranger to detect the falsity of the narrative or the fact of the delusion.

I will not take up more time as Dr. Brower and Dr. Church can undoubtedly contribute a great deal more on this subject than I can.

(For discussion, see Society Proceedings.)

RECENT MEDICAL CASES IN THE COURTS.

BY HENRY A. RILEY, ESQ.,
OF NEW YORK CITY.

RECENT LEGISLATION TO REFORM CRIMINALS.

A summary of legislation concerning the public health and the public morals was published not long since, covering the statutes enacted in the various States during the previous twelve months, and that portion relating to crime is of general interest. The writer says: "the statutes of several States reflect the humane and growing sentiment that the punishment of criminals should contemplate, and as far as possible provide for their reformation."

Ohio authorizes general, or what are known as intermediate sentences for all persons for the first time convicted of felony below murder in the second degree, the board of managers of the penitentiary being authorized to terminate the imprisonment of any person so sentenced in case of good

conduct, at not less than the minimum of imprisonment provided by law, and if sentenced for more than one successive term for separate offenses, to remit the succeeding term or terms at the close of the first. Similar Acts were passed by New York and Michigan in 1889, but with further provision for allowing prisoners so sentenced to go at large on parole, subject to be retaken and imprisoned for violating its conditions.

A Kentucky statute limits the number of penitentiary prisoners who may be paroled in any one year to five per cent. An Iowa statute provides for shortening the time of convicts as a reward for good conduct, at the rate of one month for the first year and an additional month for succeeding years until one half is remitted, but such "good time" to be forfeited for misconduct or attempted escape; and another Act of that State appropriates \$1000 to be expended by the Iowa Prisoners Aid Association in helping discharged convicts to an honest life.

EXTRADITION AND THE NIHILIST PADLEWSKI.

The murder of General Seliveskoff at Paris by the Nihilist Padlewski has caused renewed attention to be paid to extradition laws, and some of the Governments of Europe have made great efforts to secure legislation more suited to the free extradition of persons charged with offences more or less political.

Considerable interest has been felt in the position of Switzerland, which country has long been known as a safe asylum for persons charged with political offenses. It has been said that a recent law was a concession to the reactionary party and would permit the extradition of such persons.

The text of the law does not seem to warrant such a statement, and in reality maintains the traditional position of Switzerland.

It says: "Extradition shall not be granted for political crimes and misdemeanors. Still, whenever the accused person shall plead political motives or aims, extradition shall be granted if the act for which it so demanded is one of the graver crimes or misdemeanors under the common law.

"The Federal tribunal shall examine the facts and decide upon the nature of the act. Whenever extradition shall have been granted, the Federal Council shall demand that the person to be extradited shall be neither charged with nor punished for political crime, and also the punishment shall not be made the more severe because some political motive or aim might be laid to the charge of the accused person."

A DEFINITION OF DELIRIUM TREMENS.

In a recent case in Indiana an insurance policy freed the company from liability where the assured "shall become so far intemperate as to impair his health seriously or permanently or induce delirium tremens," and the Court held that delir-

ium tremens was "that diseased condition of the brain said to be produced by the excessive and prolonged use of spirituous liquors."

The insurance company objected to this definition of the disease but the Appellate Court was of the opinion that it was correct and as favorable to the company as could be asked for.

PHYSICIANS ON A STRIKE.

Many of the physicians of Dutchess Co., New York, have inaugurated a strike against the Board of Supervisors. They have sent in a petition very largely signed in which they say that they believe \$10 to be a just and fair charge for an examination of a dead body before a coroner; \$25 a just charge for ordinary autopsical examinations, and \$10 a just charge for an ordinary examination in lunacy.

They further declare: "We do hereby agree not to perform the duties of coroner's physician or as examiner in lunacy for a less sum than stated; and we would respectfully ask your Board to fix the above charges as legitimate rates."

WHEN A HOUSE IS UNTENANTABLE.

The ordinary rule in house tenancy is that the lessee is liable for rent even though the building become rickety and poor. In some of the States, however, as in New York, the lessee is freed from his obligation if the property becomes "untenantable and unfit for occupancy." This limitation naturally comes up frequently for construction in disputes between landlord and tenant, and a recent decision shows certainly that the tenant in one case was entitled to abandon his lease. It appeared from the evidence that the building was shaken by repeated explosions, which caused the walls and ceilings to crack, the plaster to fall, clocks to stop; that the building was declared by the public authorities to be unsafe and dangerous, and that the rooms were at times so filled with coal gas and smoke as to make the inmates sick. The landlord ventured the cheerful opinion that the explosions were the result of dynamite being exploded somewhere in the house. The Court decided that the tenant was having a hard time and that he was constructively evicted and need not pay rent. It must not be understood however, that he could continue to occupy the premises and not pay rent. He must go out if he did not want to pay rent.

HYPNOTISM IN CINCINNATI.

The Common Council of Cincinnati has just passed an ordinance making it a misdemeanor to give hypnotic exhibitions. Dr. J. W. Prendergast, Health Officer of that city, is of the opinion that hypotism, when applied indiscriminately, is injurious, as it affects the mental health of the subject, and recommended the enactment of the ordinance. A lecturer on hypnotism was refused a license and obliged to leave the city.

HEALTH ORDINANCES IN THE SOUTH.

Not long since a Southern town, desirous to secure the title and emoluments of a health resort, passed an ordinance declaring that no land within the city limits exceeding an eighth of an acre should be cultivated by any one person except for flower gardens, the grape, and trees of all kinds, and absolutely forbidding the cultivation of rice under any circumstances. This ordinance came before the State Supreme Court for review and was held valid under the general power held by all communities to legislate for the health of the town. It is evident that the South is bound to secure the reputation of being healthy even if food has to be imported from other sections, on account of the non cultivation of the soil.

FEDERAL LAWS ON IMMIGRATION.

The subject of controlling undesirable legislation will occupy considerable attention at the present session of Congress, and one of the main objects will be to amend the laws so as to prevent paupers, criminals and insane immigrants from entering the United States by way of Canada. A bill has just been reported in the House of Representatives on the subject, but as it contains no reference to Canada will require amendment. One section of the bill imposes a fine of \$1000 or imprisonment on any person who brings into the country an alien not entitled to land. This requires almost supernatural knowledge on the part of the Captains of transatlantic steamers and will no doubt have to be changed.

THE CLINIC.

LARYNGEAL PAPILLOMATA IN A CHILD THREE YEARS OF AGE; ENDO- LARYNGEAL REMOVAL.

A Clinical Lecture in the Rush Medical College, Chicago, Oct., 1890.

BY E. FLETCHER INGALS, A.M., M.D.,
PROFESSOR OF LARYNGOLOGY.

Gentlemen: I have to show you to day a little boy who was recently sent to me from New Mexico because of aphonia and difficulty in respiration. The mother gives me the following history: The boy, who is now 3 years of age, has never been able to speak aloud, and was always troubled with difficulty in breathing whenever he took cold, indeed there has been something peculiar in his respiration ever since birth. When he was 2 years of age the parents noticed enlarged tonsils, which it was thought might be the cause of his difficulty in breathing. He was then taken to a physician who gave him some local and internal treatment, with the hope of reducing the size of these glands. About last

Christmas his breathing became much worse, and continued to grow more and more difficult until about the middle of February, when he was taken with an acute inflammation of the larynx, the result of a cold, which was attended by the symptoms of croup. For this he was given emetics that caused the vomiting of a considerable amount of mucus, which seemed to relieve him for the time being. But about a week later tracheotomy became necessary to prevent suffocation. Shortly afterward it was found that he was unable to breathe at all through the larynx, and about the middle of March and extending over a period of six weeks, several attempts were made by the local physicians to relieve the obstruction, but without any very satisfactory results. He was finally brought to my office during my absence from the city and was examined by my assistant, Dr. J. E. Rhodes, who told me that by pressing the tongue down firmly he was enabled to see a portion of the tumor rising above the tip of the epiglottis. A few days later I saw the child for the first time; his experiences had been such that he began to cry and fight the moment he was brought into my consultation room, and therefore I found it useless to try to inspect the larynx. By closing the tracheal tube I found that no air could pass through the larynx. I placed a gag in the child's mouth and passed my forefinger behind the epiglottis, where I could distinctly feel a large mass completely filling the vestibule of the larynx. This was soft, had a granular or uneven surface, and felt in all respects like a papillary tumor.

It was impossible to remove any portion of this tumor with the finger nail, therefore I selected a pair of short, strong laryngeal forceps with spoon-shaped cutting blades, which I passed into the larynx, guided by the index finger of my left hand. With these I succeeded in removing at one bite a mass of the tumor as large as a filbert. Introducing the forceps two or three times more I removed other pieces of this growth, so as to practically free the vestibule of the larynx. By this time there was so much blood, and the child was so exhausted from his continual struggle that I postponed further operation until another sitting.

Subsequently with forceps cutting antero-posteriorly or laterally I removed piece after piece until the vestibule of the larynx appeared free. I then passed the forceps through the glottis and removed several masses from below the cords, thus at four or five sittings the tumor was apparently entirely removed, but still the boy could not breathe when the tracheal canula was closed. This was due, partially at least, to granulation tissue springing from just above the tracheal canula. I removed this, but when the patient returned some days later I found him unable to breathe through the mouth, the glottis being ap-

parently closed by adhesions of the vocal cords. With my finger in the larynx as a guide I then forced between the cords a forceps opening antero-posteriorly; then holding the blades open I withdrew the forceps, thus dilating the glottis throughout its entire length. Four or five days later the condition had returned and the same operation was repeated. At a recent sitting I attempted to place an intubation tube in the larynx, which I hoped to leave until healing of the cords had occurred, but the opening in the trachea had been made so high up that, although the tube had been shortened for the purpose, it was impossible to introduce it without striking the tracheal canula before its head had reached the vestibule of the larynx, therefore I was obliged to abandon the plan.

All varieties of abnormal growths have been found in the larynx, but the most frequent of these are papillary tumors, about 75 per cent.; next to these come the fibrous, and next to these the fibro-cellular growths, and after these are scattering cases of adenoma, angioma and sarcoma. In most of the cases, that we can examine laryngoscopically, the tissues are found congested, and tumor springing from the edges or upper surface of the vocal cords, but sometimes they grow from the under surface near the anterior commissure, or from the ventricular bands. In the case which I have shown you the tumor seemed to grow not only from the epiglottis, ventricular bands, and edges of the cords, but also from the sub-glottic portion of the larynx. Such growths are generally attributed to repeated or continued hyperæmia of the larynx, and sometimes they result from the laryngitis following measles, scarlet fever, croup or diphtheria. Rarely they are congenital, as seems to have been the case in this patient.

The usual symptoms of laryngeal tumors are dyspnoea, dysphonia or aphonia, dysphagia, and occasionally pain. These of course vary with the size and location of the growth. Cough is occasionally present, but is not apt to be troublesome unless the tumor is large and involves the epiglottis, or unless it bleeds easily. When present the cough is frequently of a croupy character, as was observed in the case which I have shown you. Dysphonia or aphonia is one of the most common symptoms. It was present with this patient from the very beginning, and was the first symptom to attract the parents' attention. It depends upon the position of the growth and the amount of concurrent inflammation and will therefore vary from time to time. It is sometimes intermittent, because of changes in the inflammation or the position of the tumor. Dysphagia is comparatively frequent in malignant tumors of the larynx, but does not often occur with benign growths excepting when the tumor involves the epiglottis or the posterior laryngeal

wall. Pain is not often present excepting with malignant growths, though a sensation as of a foreign body or a slight uneasiness in the throat is not uncommon, especially upon deglutition.

Diagnosis.—Upon a satisfactory laryngoscopic examination of the larynx these tumors may be readily detected, though it is impossible in all cases to be certain of their true character until portions have been subjected to microscopic examination, and even then the diagnosis may remain in doubt, for sometimes laryngeal growths which present a malignant histological appearance may have a benign history from beginning to end. In very young children, however, satisfactory laryngoscopy is seldom attained, and then the examination must be made, as in this case, by palpation. However, even in children a good view of the larynx may sometimes be secured if the tongue is pressed downward and at the same time drawn forward by Mount Bleyer's depressor, as recommended by that gentleman in forcible laryngoscopy during diphtheritic croup.

The affections which are most liable to be mistaken for benign growths of the larynx are syphilitic or tubercular laryngitis, and malignant tumors. None of these are likely to occur in young children, though the possibility of syphilitic laryngitis must not be overlooked and critical inquiry must be made into the history before an accurate diagnosis can be arrived at. Specific condylomata, although rare, may possibly be mistaken for a tumor of the larynx. These consist of slightly raised irregular prominences of a whitish color situated on the congested mucous membrane. They usually occur within five or six weeks after inoculation and rapidly disappear under anti syphilitic treatment and the local application of astringents, whereas a laryngeal tumor is little affected by these measures. Tubercular laryngitis is attended by swelling, ulceration, severe pain, and grave constitutional symptoms which are not present in the cases under consideration.

Malignant tumors of the larynx may not be easily distinguished at first, but may be suspected when there is decided localized congestion and the growth appears to involve the whole thickness of the mucous membrane, and the submucous tissues. Later they are characterized by thickening and distortion of the parts, more or less pain, and finally before many months by marked cachexia and constitutional symptoms, in which respects they differ much from most benign growths.

Papillomata are usually located on the upper surface or the free margin of the vocal cords, but they may occur in other portions of the larynx, as in the case that I have shown you. They are generally of a light pink color, but may be white or even red. They usually have an irregular cauliflower or raspberry like surface, and may

vary in size from a few millimetres in diameter to a mass large enough to completely occlude the larynx, as in the child I have presented to-day. Though sometimes pedunculated they usually spring from a broad base and several tumors may exist in the same case. These tumors are soft and may be readily torn or crushed with forceps, as in this patient.

Fibrous growths are small, round and firm, and could scarcely be confounded with papillary tumors. Other varieties of intra-laryngeal growths are so uncommon that in case of a child like this they could hardly affect the question of diagnosis.

Prognosis.—The tendency of these growths is to steadily progress until the voice is lost and respiration more or less interfered with. In children they are very likely sooner or later to cause suffocation unless efficient treatment is adopted.

Treatment.—Although these tumors have been known to disappear without operative procedure, there is no reason to believe that any internal medication is of any value in their reduction, and it is doubtful whether the local application of astringents has any influence upon their progress. Therefore the only treatment to be recommended is the removal of the growth by suitable instruments. Intubation as recommended by Dr. Joseph O'Dwyer, for diphtheritic croup, has been practiced with some success in a few cases for the relief of papillary growths in the larynx, but is a method of treatment that can hardly prove curative in the majority of cases.

Various tube forceps have been recommended for removing these growths, but I prefer common forceps bent to suit the larynx, opening antero-posteriorly or laterally, with crushing or cutting blades according to the nature of the growth. These are commonly known as Mackenzie's forceps, various modifications of which I have had made to suit special cases. Guillotines and snares have also been recommended, and they are admirably suited to certain cases. Voltolini's method of rubbing the growth firmly with a sponge attached to a suitable staff will be found effectual in some cases, and is especially to be recommended in young children, when the growths are soft. The galvanic cautery has also been employed for the destruction of these neoplasms, but it should never be used excepting by those whose hands are steady and experience large. When it is used, the platinum point should be made of fine wire which will heat or cool very quickly, so that other portions of the larynx will not be injured. Chemical caustics are also recommended for the destruction of these growths; the ones most frequently employed being the nitrate of silver and chromic acid, either of which may be fused upon a probe so that there is no danger of the caustic dropping into the trachea. Nitrate of silver I have never found of much value excepting for cauterizing the

base after a tumor has been removed, but chromic acid, used in small quantities, is very efficient. In applying it I fuse a small portion of the acid, amounting to not more than twice the bulk of an ordinary pin's head, upon the end of an aluminum probe. I slip down over this a short section of small rubber tubing, which is prevented from falling off by a silk thread attached to it and wound about the probe and brought up to the handle. Where I wish to canterize with the end of the probe the tubing is passed down slightly beyond it, and is crowded back by slight pressure as the probe touches the part to be cauterized. When I wish to canterize with the side of the end of the probe, a small piece is cut out of the rubber tubing in the proper locality. The larynx is very apt to contract immediately after the growth is touched, but this section of rubber tubing prevents the acid from being smeared upon other parts as the probe is withdrawn. In using forceps they should be applied accurately to the growth by the aid of the throat mirror whenever this is possible. But, as in the case which I have shown you, it will sometimes answer to apply them guided only by the finger and a knowledge of the condition of the parts. General anaesthesia is not usually practicable in operations of this kind, though it might sometimes be admissible in young children when tracheotomy has first been performed. Ordinarily local anaesthesia should be induced by the application of a 10 to 25 per cent. solution of cocaine, before an operation of this kind is attempted, but in children great care should be exercised that too much of the drug is not used.

Whatever operation is performed, cold applications to the neck should be directed for twelve or thirty-six hours afterward in case any soreness results, and the operation should not be repeated until three or four days after all tenderness which may have been caused by the first operation has disappeared. The patient should be cautioned to use the voice as little as possible until all congestion has subsided. The application of astringent sprays daily or three times a week will aid in the reduction of the inflammation.

The indications for extra-laryngeal operations consist of large, dense, or inaccessible growth or growths in young children where the inter-laryngeal method cannot be practiced. But this method should not be tried until a skilful laryngologist has failed to remove the growth by the natural passage and should never be tried simply for the relief of the voice, but only when the growth endangers life, because laryngotomy is itself a positive danger to life and the operation very seldom restores the voice, besides, recurrence is quite as common after operation done in this way as after the laryngeal method. Laryngeal growths have occasionally been removed in children by the finger-nail alone, but in cases where all or a part of

the growth is attached low down it would be impossible to accomplish this result without the aid of forceps. In this patient I believe that all of the tumor has been removed, and it is my purpose to-day to take out the tracheotomy tube and to insert an O'Dwyer's intubation tube which will be allowed to remain for a few days until the parts appear to have healed. The intubation you will observe is performed the same as for diphtheritic croup.

Upon withdrawing the tracheotomy tube I now find a mass of granulation tissue above it which I will remove by means of a punch-like cutting forceps which I had made for a similar case. It is very difficult to remove these growths with ordinary forceps as the granulations slip away from the blade into the trachea upon every attempt to seize them. Having removed the granulation mass I will now introduce into the larynx a pair of ordinary laryngeal forceps in order to ascertain whether the glottis is patent; I find this to be the case and you may readily see the end of the forceps through the tracheal opening. I will now introduce one of the smaller sized Schroetter's dilators, a No. 5. This is large enough to fill the trachea and will therefore crowd down to the tracheal opening any granulations above it. I find the passages perfectly clear—the child now breathes easily—I will now introduce the O'Dwyer's tube suited for a child three or four years of age. This done, the head of the tube rests in the larynx, and the body may be seen through the tracheal opening. I now cut and withdraw the string, and the tube is left in the larynx, where it will remain until the tracheal opening has closed.

I regret that the original opening had not been made farther below the larynx, as that would have allowed us to introduce the intubation tube and leave it until we were assured the larynx was in a healthy condition before removing the tracheotomy canula, as it is if our present plan does not succeed it will be necessary to again open the trachea. During the next few days this child may be fed upon soft solids or fluids, but fluids must always be given with the body in a reclining position of about forty-five degrees, the head being lowest, so that the liquid cannot run into the trachea.

NOTE.—The intubation tube was removed seven days later. The tracheal wound had then been closed for six days and the child breathed perfectly after the laryngeal tube had been taken out. He had never spoken aloud in his life and made no effort to do so for about three weeks, but the whisper grew louder after a few days.

December 21, at the end of six weeks, the tumor was again found to be growing—portions were removed and an intubation tube inserted but, finally, a mass which grew from the under surface of the epiglottis, and which could not be

removed excepting with the curette, necessitated the reintroduction of the tracheal canula, which was put in to-day lower down so that it will not interfere with a short laryngeal tube, which will be needed after future operations to prevent adhesions of the cords.

Two days later a severe bronchitis developed, which proved fatal in about ninety-six hours. No post-mortem could be obtained.

70 State street.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

TREATMENT OF HIGH TEMPERATURE IN TYPHOID FEVER AND PHthisIS PULMONUM WITH SMALL FREQUENTLY REPEATED DOSES OF ANTIFEBRIN.—DR. AUGUST FAVRAT has treated a large number of cases in the wards of Professor Sahli, in Berne, with small, frequently repeated doses of antifebrin (*Deut. Archiv. f. klin. Med.*, Hft. 6, 511). He is strongly in favor of antipyretic treatment, as it greatly increases the comfort of the patient, and, by lessening metabolism, tends to husband the strength. The author points out at some length that most antipyretics are depressing, and that many of the newer ones are used rashly in practice, before we are thoroughly acquainted with their dangers, their doses, and the most effective ways of exhibiting them. When one reflects how long it has taken us to become even imperfectly versed in the possibilities to be attained with digitalis, opium, etc., we must conclude that new medicines are too lightly introduced, and in many cases too lightly cast aside. These considerations, and the fact that antifebrin, although a sure and active antipyretic, has certain drawbacks, such as the production of collapse, cyanosis, etc., have induced Professor Sahli and the author to try if they could not obtain the antipyretic action and at the same time avoid these drawbacks by giving the medicine in small repeated doses, instead of in a single large dose, as is customary. The advantages of such a plan are obvious, as any unpleasant effects may be at once observed and the medicine stopped before serious harm has been done. Antifebrin acts rapidly, and is therefore specially suited for exhibition in small repeated doses, whereas a slowly acting antipyretic, such as quinine, either has no action in small doses, or causes a cumulative action after several doses have been given, thus losing the advantages to be derived from a divided dosage. In typhoid fever antifebrin was given in $\frac{1}{2}$ to $1\frac{1}{2}$ grain doses hourly in four cases. In no case was more than 20 grains given during the twenty-four hours. The action was satisfactory, and in all cases the temperature fell more markedly the higher it was. In seven cases

in which similar doses were given every two hours the reduction of temperature was scarcely sufficient. When the morning temperature was not over 101.5° F., however, a two hourly dose was found quite sufficient (four cases). Similar doses kept the temperature about normal in cases of phthisis. Neither in typhoid fever nor in phthisis did antifebrin exert any specific action on the course or duration of the disease. In all these cases antifebrin was well borne; a gentle antipyretic effect was maintained; in several cases sweating was present, but only in two was there the least sign of cyanosis or rigors. In no case was the patient ever much disturbed, and there were never any alarming symptoms. In conclusion the author gives a warning against the use of large doses, 3 grains being reckoned as such. Although much larger amounts are often well borne, yet in certain cases fatal results have ensued. A number of such cases are cited.—*Brit. Med. Journal*.

PILOCARPIN IN SKIN DISEASES—DR. KLOTZ (*Journ. of Cut. and Genito-Urin. Dis.*, November, 1890) treated cases of eczema with daily hypodermic injections of ten to fifteen drops of 1 per cent. solution of muriate of pilocarpin. The first case was that of a man, aged 28, who had suffered for several years from eczema. The skin showed no great infiltration in any part of the body, but was dry, hard, resistant, and slightly scaling. After the first injections the reaction was very slight, moderate moisture appearing on some of the less affected portions, but it generally became more distinct, and after about twelve injections a general secretion of sweat was produced. The patient left the hospital after the seventeenth injection. The scales had almost entirely disappeared, the skin was much softer and more pliable, and showed "more natural turgor and elasticity," itching having become very insignificant. The second patient, aged 21, suffered from eczema squamosum and rimosum of both palms, which were covered with a very hard and thick horny skin divided by numerous cracks. Other treatment having failed, daily injections of pilocarpin were given, the patient at that time being unable to bend or close his fingers. After nineteen injections perspiration, which had previously appeared on the forearms, wrists, and backs of the hands, now appeared for the first time on the palms. On June 1st the horny condition of the surface of the palms had entirely disappeared, the skin looked natural, showed all the ridges and indentations of the surface, and was soft and pliable, and the patient could move and close the fingers without pain or difficulty. A third patient suffered from a general papular eczema, which was attended with considerable thickening on the flexor aspects of both elbows. Over the chest and abdomen and in a milder degree on the extremities the skin

was hard, dry, slightly scaling, dark brown in color, with numerous small hard papules of a somewhat lighter color. The patient left the hospital after eight injections, at which time the skin had lost a great deal of the dryness and hardness, the papules had been greatly reduced in size, and the itching had almost disappeared. In the discussion at the meeting of the American Dermatological Association which followed the reading of this paper Dr. Hardaway stated that his experience of this treatment in ichthyosis, eczema, alopecia, and pruritus was not such as to lead him to continue it.

INJECTIONS OF PYOKTANIN IN CYSTITIS.—DR. LEON NENCKI, of Warsaw, reports (*Gazeta Lekarska*, No. 32, 1890, p. 642) four cases of exceedingly obstinate chronic cystitis (three of gonorrhoeal, one of rheumatic origin), in which, after ordinary measures had completely failed, the injection of a 1 in 1,000 and 1 in 500 solution of blue pyoktanin, repeated twice daily, was followed by cure in from ten to fourteen days. In every one of the cases, a very marked amelioration (decrease in turbidity of the urine, disappearance of alkaline reaction and pain, etc.), took place in a couple of days after the beginning of the treatment.

Medicine.

POINTS IN THE DIETETIC MANAGEMENT OF CHILDREN.—RACIOPOR formulates the following rules, which will aid us very much in selecting a diet when it becomes advisable to discontinue milk temporarily: 1. Avoid albuminous food, *a*, when marked constitutional symptoms are present; *b*, when in doubt as to the character of the fermentation causing the disease; *c*, when the stools are putrid; *d*, when the stools contain mucus and blood; *e*, when the nausea is constant and not relieved by vomiting. 2. Avoid carbohydrates as a food, *a*, when there are no marked constitutional symptoms present, and the stools are continuously acid; *b*, when there is much flatus, pain or urticaria. 3. When the albumens are to be avoided, the carbohydrates are, as a rule, indicated; and when the carbohydrates are to be avoided, the albumens are, as a rule, indicated. 4. Give foods, such as cream, beef-broths and whisky, *a*, when the foods prescribed according to the above rules disagree; *b*, during the first twenty-four hours in severe acute cases; *c*, when in doubt as to the character of the food indicated. —*Archives of Pediatrics*.

TREATMENT OF ACUTE TONSILLITIS.—SURGEON HEHIR (*Indian Med. Gazette*, November, 1890), in cases of acute tonsillitis recommends the administration of pilocarpine to relieve the distress caused by the accumulation of tenacious pharyngeal mucus. One-eighth of a gr. in a teaspoonful of water every two hours, or $\frac{1}{16}$ gr. hy-

podermically every four hours, until slight salivation is produced, is sufficient. Locally he uses repeated poultices and constant steaming by means of boiling water near the patient's head. Internally, tartar emetic in doses of $\frac{1}{8}$ gr. to adults every two hours has given him more uniformly good results than any other drug, not excepting sodium salicylate. If any depression follows the use of the tartar emetic, which is unusual, ammonium carbonate or strophanthus may be given. Of stimulants he thinks port wine the best, and believes that it has some local beneficial action upon the inflamed tonsils. Guaiac mixture is sometimes very useful in relieving the shooting pain often complained of during the act of swallowing. It is usually good practice to begin treatment by the administration of a mercurial followed by a saline purge. Dr. Hehir has repeatedly seen marked relief follow a simple puncture or small incision of the tonsil, and this should be done whenever the gland is greatly swollen. It is much preferable to the use of leeches in the submaxillary region. He believes that strong astringent gargles are of very little use during the acute stage, but that tepid antiseptic gargles may be beneficial. —*Medical News*.

Surgery.

A MODIFICATION OF SENN'S METHOD OF ESTABLISHING LATERAL INTESTINAL ANASTOMOSIS.—DR. W. SACHS, assistant to Professor Kocher, of Berne, describes (*Centralblatt für Chirurgie*, October 4) a modification of Senn's method of forming lateral anastomosis between two separated portions of intestine. Senn's procedure of applying two bone plates is held to be not free from danger. The sutures with which the plates are armed, after they have been passed through the intestinal walls and tied together, are enclosed within punctured walls, through which capillary communication may be established between the interior of the intestine and the peritoneal cavity. A small abscess may be set up around one of the threads cut very short and enclosed on every side by the opposed serous surfaces of the two portions of the gut. Another danger, pointed out by Heflerich, is gangrene of the intestinal wall, due to pressure of the bone plates. Sachs proposes the use of an appliance resembling in form a sleeve stud perforated in the middle. This is made up of two bone plates fixed together, yet separated to a small extent from each other as far as the uniting portion immediately around the central perforation. A longitudinal incision having been made in each of the opposed portions of intestine, each disc is inserted into the intestinal canal on either side, and the intestinal anastomosis is thus readily and speedily established. Sutures are then applied through the serous membrane on each side wherever there is a tendency to protrusion of the mucosa. The

following advantages are claimed for this method, which, however, has as yet been tested only in experiments on rabbits: 1. The interior of the intestine is not exposed for so long a time as it is in Senn's operation. 2. The margins of the intestinal wound rest in the deep annular groove between the joined discs, and are thus protected against infection and the results of pressure. 3. There is no risk of the cut edges adhering together. 4. It is unnecessary to pass any suture through the whole thickness of the intestinal wall.—*Brit. Med. Jour.*

Obstetrics.

ALBUMINURIA IN PREGNANCY.—EHRHARDT AND FANRE (*Nouvelles Archives d'Obstét. et de Gynéc.*, September, 1890) discuss this subject in relation to a mild attack of puerperal diphtheria in the Paris Maternité. They sum up past theories which have influenced treatment. Rayer traced the albuminuria to hydræmia, which exists during pregnancy. He had noted that injections of water into the veins of an animal caused albuminuria, but this fact does not prove his theory. Claude Bernard traced albuminuria to a state of superalbuminosis in pregnancy. Injections of white of an egg into the circulation caused albumen to appear in the urine. Gothwald and Monas held that the phenomenon was caused by increased blood pressure, the gravid uterus compressing the aorta below the renal arteries. Others believed that the uterus, by pressure on the ureters, caused renal disease. Lastly some pathologists traced the albuminuria to nerve influences carried on by communications between the uterine and renal plexuses. None of these theories, says Drs. Ehrhardt and Favre, explain why pregnant women suffer from albuminuria only in exceptional cases. They trace the complication to local disease. They examined 300 placenta. Of these 20 were from cases of albuminuria. In 19 of these placenta white infarcts were detected, and all the patients except two were subject to severe leucorrhœa when not gravid, and often to colicky pains during menstruation, symptomatic of endometritis. Colonies of bacteria were found in the infarcts, and when some germs, taken from infarcts in the placenta of patients who had suffered from eclampsia as well as albuminuria, were injected into the veins of rabbits and guinea pigs, parenchymatous nephritis was set up. Thus the morbid changes in the decidua which cause placental infarcts are induced by the same agency that induces the nephritis of pregnancy. This agency is the presence of germs in the placenta, which germs produce in non-pregnant patients leucorrhœa and other symptoms of chronic endometritis. The focus of infection being the uterine mucous membrane, that structure requires attention and treatment. When

it is unhealthy the patient may repeated bear fetuses which die before birth through disease of the placenta—that same disease which, in the opinion of Drs. Ehrhardt and Favre, cause the nephritis of pregnancy with consequent albuminuria. They intend shortly to describe the precise nature of the disease in the kidneys in these cases. The moral they would draw is—Never neglect uterine discharges.—*Brit. Med. Jour.*

Pædiatrics.

CROUPOUS PNEUMONIA.—JOHN PLAYFAIR, M.D., in *Edinburgh Med. Jour.*,—The treatment should be mainly expectant, and therefore little need be said of it. Continuous hot moist applications to the chest were not employed. Such applications I believe do harm. They impede the movements of the chest by their weight, tend to increase fever, and generally are anything but comfortable.

All the counter-irritation required is secured by the application, to the back of the chest, of a few hot linseed meal poultices sprinkled over with a little mustard. Each poultice should be kept on for about twenty minutes, and in the intervals the chest enveloped in a light layer of cotton wool. Internally, if the cough is troublesome, an occasional dose, according to age, of a mixture of equal parts of syrup of tolu and syrup of chloral should be given. If the patient seems to be getting exhausted, and the pulse becoming rapid and feeble, the chloral and tolu mixture should be stopped, and a mixture of carbonate of ammonia, tincture of digitalis, and infusion of senega given instead. This mixture is often required about the time of the crisis or immediately after, as already mentioned. Alcohol was also usually given at this time.

As regards antipyretics, I find tepid sponging is by far the safest and most effective means of bringing down temperature in children. It is easily carried out, and a skilful nurse can sponge the patient as often as necessary without in the least disturbing or exposing him. My rule is to sponge whenever the temperature reaches $103\frac{1}{2}^{\circ}$, and to do so every two hours till the fever is reduced two degrees. Antipyretics, such as antipyrin and antifebrin, are given in some cases also, and usually with good effect. Occasionally, however, the effect is greater than expected, and the consequent exhaustion more pronounced than desirable. For that reason, chiefly, I prefer the sponging, unless in a case of hyperpyrexia, as in cases where the temperature runs up to 106° and 107° , when antipyrin and antifebrin should be used and the wet pack also resorted to. I prefer antipyrin to antifebrin as being decidedly less depressing.

During convalescence, iron, maltine, and cod-liver oil are the chief medicinal agents relied upon.—*Archives of Gynecology.*

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THE TREATMENT OF THE INFECTIOUS DISEASES.

Up to the present time, two methods have been proposed and successfully practiced in the treatment of the so-called infectious diseases. Three of these diseases, small pox, anthrax and hydrophobia, we believe, are successfully stayed in their destructive course by the immunity which follows an infection with the attenuated virus of the respective disease. For small-pox, we have two methods equally successful, "inoculation" and "vaccination." They are practically illustrations of attenuation of infection produced in two different ways.

Only one of the chronic infectious diseases, syphilis, has so far been successfully treated, and by a method radically and entirely different. The remedial effect of mercury and iodine upon this disease is as anomalous as it is unparalleled. It is not to be compared with the treatment of malaria by quinine. To state the matter simply: three acute infectious diseases are successfully treated by attenuated infection, and one chronic infectious disease is treated successfully by the use of mineral alteratives. No other mycotic infectious disease pretends to any preventive or curative treatment.

From so limited a datum, it would perhaps be unwise to draw very positive deductions, but it may be worth while to speculate on the presumptions of the cure for tuberculosis lately proposed. This disease is to be classed with syphilis among the chronic infectious diseases. It is essentially an obligate parasite of the warm blooded animals, as syphilis is a close parasite of man. It would

seem from analogy that some alterative medication might be instituted in this disease as successful as the application of mercury in syphilis. Therefore we are not bound by our previous knowledge to look with suspicion upon the hypodermic medication proposed by STURLY and GIBBS. They recommend a well tried and a surer way of administering such remedies as are too unstable to be absorbed unchanged by the stomach. Their claims are not sensational and their methods are unobscured by secrecy or reserve.

The injection of the products of parasitic mycotic growth advocated by ROBERT KOCH is a line of treatment which has no parallel in our experience. It can not be compared with inoculation to which it is most closely related, and it is wholly different in principle and action from the treatment so successfully practiced in our only other chronic infectious disease. It rests then wholly on the authority of the author who has not yet had an opportunity to demonstrate its action and ultimate value. If it succeeds, we shall have added to our therapy another method, before the promises which inoculation offers have been demanded by investigation and fulfilled by experience.

There still remains perhaps the saddest category of ills to which civilization has exposed man in the facultative parasitic diseases,—the "filth diseases." Of these only one class has yet been conquered, the infective wound diseases. Suppuration, erysipelas, malignant cedema and other hospital diseases have become so rare that they are objects of curiosity in our large clinics, but typhoid and diphtheria remain with us, the cause of almost five per centum of all deaths in our larger American cities.

Is it unreasonable in us to expect that every acute infectious disease will ultimately be overcome and its ravages stayed by the immunity which follows inoculation with an attenuated virus, and that each of the chronic infections will be disarmed by some such alterative as we have found so efficient in syphilis, and that the filth diseases will disappear when an educated intelligence guides our individual and collective life?

In some distant country, there are those in high position who seriously doubt the efficacy of vaccination, and it is rumored that antivaccination societies exist there. Even in our own

country some good people doubt the propriety of using mercury for syphilis, and PASTEUR's treatment for hydrophobia. Is it wonderful, then, that the most stinging sarcasm is exhibited against SHURLY and GIBBS to whom attention has been drawn by the more startling and almost coincident announcement of ROBERT KOCH? Prejudice should not have an audience and there should be nothing *ex cathedra* in medicine.

SIR ANDREW CLARK'S PATIENT: A CLINICAL SKETCH.

SIR ANDREW CLARK has an apt and deft way of lighting up his subjects by means of clinical illustration. Not long since he was led to make public some of his views regarding the non-tubercular and non-cardiac hæmoptysis of elderly persons, when he brought forward the following illustrative cases:

Some seven years ago, Dr. Wilson Fox, Sir William Jenner and I were summoned to consult together about a lady suffering from an incoercible hæmoptysis. She was a Jewish lady, over 60 years of age, very stout, very rheumatic and always ailing. She had nodular finger-joints, frequently recurring bronchial asthma, and occasional outbreaks of either eczema or urticaria. Ten days before our visit, when suffering from ordinary catarrh without any accompanying fever, the patient began to suddenly cough up blood and had continued to do so, in small quantities, at intervals of three or four hours since that time. The patient had a somewhat large heart, but there was no murmur, and there was no evidence of systemic arterial disease. Within the two days previous to our consultation the pulse had become more frequent and quick and the temperature had risen to 100° nearly. In the lungs there were signs of a generalized bronchial catarrh, of emphysema and of basic congestion. The patient complained of frequent cough, of great oppression of the chest and of a growing difficulty of expectoration. She had, furthermore, a loaded tongue, thirst, loss of appetite, a swollen liver, and all the signs of a gastro-enteric catarrh. She had been carefully treated by absolute rest, fluid food, ice to the chest, and in succession by lead, gallic acid, and the hypodermic injection of ergotin. After full discussion it was determined that another method of treatment should be tried. The patient was ordered to have a light and rather dry diet, to be sparing in the use of liquids, to discontinue the ice, to have a calomel pill at night, followed by a saline cathartic on the following morning, and to take an alkaline mixture with ammonia between meals twice a day. Within thirty six hours the hæmoptysis had ceased and the patient made a speedy and complete recovery. About a year and a half ago the lady again consulted me on account of a subacute rheumatic arthritis. She told me that since she saw me first she had had one attack of

bleeding and it had yielded promptly to calomel and salines. The contention of Dr. Clark in regard to hæmorrhages of this type is that they are liable to occur and recur in elderly persons of a rheumatic diathesis, but who are free from organic disease of the heart and lungs, that they arise out of minute structural alterations in the terminal blood vessels of the lungs, which alterations are akin to the vascular changes found in the osteoarthritic articulations, and are themselves of an arthritic nature, and that while this hæmoptysis may at times lead to a fatal result, it usually subsides without supervision of any coarse anatomical lesion of either heart or lungs. The use of astringents in large doses appears to be productive of harm chiefly for the reason that it tends to create great thirst, for the allaying of which the patient resorts to an unrestricted indulgence in liquids which seems to perpetuate the trouble.

UTERINE MEDICATION AND UTERINE SURGERY.

At the meeting of the Philadelphia Obstetrical Society, December, 1890, DR. CHARLES P. NOBLE presented a paper upon "Minor Uterine Surgery," which seems to us timely, since it is neither on the one hand excessively conservative, nor on the other unduly aggressive, in its recommendation of surgical procedures.

It might be inferred, he says, that gynecology had been so fully occupied with the surgery of its appendages that the uterus itself had been neglected, perhaps from the fact that the methods of the treatment of that organ had been placed upon an enduring basis and needed no restatement. But since, in a recent paper, the accepted methods of uterine treatment are called in serious question, he believes himself warranted in a review of generally accepted teachings.

He insists that a sharp distinction should be made between diseases of the uterus and diseases of its appendages, and this distinction is rendered the more emphatic, since it will control rational conclusions as to operative procedures.

Barring neoplasms, he claims that uncomplicated diseases of the uterus seldom or never threaten life. Not so, when its appendages are involved. When these are diseased, to tamper with the uterus is often but seriously to chance more aggravated conditions of diseased appendages.

Referring to the use of the uterine sound, he regards the field for its use as a limited one, and believes that more harm than good comes from it, as used to-day. It is serviceable in the diagnosis of obscure morbid conditions of the pelvis, but he holds that the size, shape and position of the

uterus can be far more accurately determined by bimanual examination than by its use. As to intra-uterine medication, he deprecates the freedom with which it is practiced, and considers the cases rare in which benefit is derived from the application of remedies within the internal os uteri.

The dilatation of the cervix is advised in the cure of obstructive menstruation for sterility due to flexion of the uterus, for the removal of polypi, small fibroid tumors, and the retained products of pregnancy. Rapid dilatation is advised and the steel dilators of Dr. Goodell's pattern are preferred.

The curette is considered indispensable in the treatment of uterine fungosities for the removal of endometrium, in certain cases of obstruction and congestive dysmenorrhœa, and for the removal of necrotic tissue after incomplete miscarriages.

But the utmost care is enjoined as to the manner of its use—the cervix having been previously dilated, and the finger preceding and guiding in application. The patient during its employment should be thoroughly anesthetized and antiseptics is to be carefully maintained.

The subject of the medical and surgical treatment of lacerations of the cervix, we think, is exceptionally well considered, but space does not permit its reproduction. The discussions to which the paper gave rise were able and instructive and we hope they will pave the way to a more extended consideration of the subject in the special Section at the next meeting of the Association.

FRAGILITAS OSSIUM.

DR. RODDICK, of Montreal, has had an unusual case of this affection, which is noted in the *Montreal Medical Journal*, November. The patient, a boy, aged 13 years, had received a fracture of the right thigh when 1 year old, and again when 3 years old the surgeon had been called to set a second breakage in the same bone. Since that time the boy had not had less than twenty five other fractures of the bones of the lower extremities, the left femur being at present ununited. DR. RODDICK purposes at a near date to amputate both limbs, as they are in their present condition quite useless and extremely atrophied. There has, as a rule, been an entire ab-

sence of pain in the setting of the fractures. So far as could be learned, there had been no history of goitre in any member of the family; the brothers and sisters of the patient were in good health. Union of the broken bones at first took place with an abundant new growth of osseous material, but the more recent fractures have refused to unite so readily. The fractures were produced by a very slight amount of violence and were attended with little or no pain. The bones of the trunk and upper extremities have shown no defective tendency. DR. MILLS, commenting upon this case, adverted to an analogous, though less marked, defect often seen in certain of the larger breeds of dogs, such as the St. Bernards, mastiffs and great Danes, which were now bred of enormous proportions; the quantity of bone produced is relatively disproportionate to its quality, hence an imperfect osseous development in puppy-hood, and an occurrence of permanent deformities, especially in the hind limbs.

EDITORIAL NOTES.*

A NEEDFUL CORRECTION.—We very much regret that our esteemed confrère of the *Cincinnati Lancet Clinic* should have been so unfortunate as to the sources of his information with reference to the circulation of THE JOURNAL in Chicago.

It should be premised that in no instance is THE JOURNAL furnished either as a perquisite or as a gratuity to any individual connected with either its editorial or publishing department.

We are at a loss to know how the *Lancet-Clinic* could have been so misinformed, as to state that the Chicago circulation of THE JOURNAL is one hundred and sixty-two copies per week, whereas a reference to the mailing list shows the exact number to be two hundred and sixty-seven.

The writer also argues a greater interest for THE JOURNAL in his city, from the fact that one physician in every six in Cincinnati takes THE JOURNAL. The exact number of copies taken in Cincinnati is ninety-four. This estimate would give to that city only five hundred and sixty-four physicians, a much less number than we had supposed.

It is neither our purpose to vaunt the praises of the medical profession in Chicago nor to discuss the question of the removal of the THE JOURNAL to Washington. But when the effort is made to

discredit THE JOURNAL and the place of its publication—that effort by so far as it is successful can only bring damage to our advertising interest—to an extent which we are confident the *Lancet-Clinic* does not intend. Competing interests are so sure to avail themselves of such statements that our duty to THE JOURNAL requires that we make the correction. We know of no instance in which THE JOURNAL has not the kind wishes of the medical men of Chicago, and without any boastful spirit we deem it our duty to state that of the income of THE JOURNAL derived from all sources, in the entire United States, *one-seventh of that amount comes from Chicago alone.*

PROVISION FOR NURSES.—The members of the medical profession are quick to recognize services rendered by competent and well trained nurses. Patients who appreciate their services are grateful for such care as they alone can render. It must not be forgotten that these nurses in the faithful performance of their duties are broken of rest, often overtaxed in the performance of their arduous duties, closely confined in the sick room, and are especially exposed to its contagions.

It can not be a matter of surprise that not infrequently they themselves become the victims and require medical care and skilful nursing. It would bring cheer to many of these if they knew that, whether they had means or not, a place of rest and treatment awaited them, in case of sickness.

The Philadelphia Polyclinic has taken a step in this direction, which we hope will stimulate to similar action in every American city. During the past year four free beds have been endowed and arrangements have been made with the Nurses' Beneficial Association whereby any member taken sick while practicing her calling is cared for free of cost.

It is a good thing to endow free beds in our hospitals; and it is a specially good thing to provide for those who imperil their lives in the service of the sick. Will the benevolent men and women of our country bear in mind the needs of our valuable nurses?

PROF. VAUGHAN'S ALLEGED DISCOVERY OF A TYPHOID "LYMPH."—Immediately before going to press with this issue a "special" from Ann Arbor, Mich., appeared in the public print heralding the discovery by Prof. Vaughan of the micro-

organisms of typhoid and cholera infantum, and representing that the medical world was upon the eve of another sensation—from inoculation results—not unlike that so recently occurring at Berlin. Upon telegraphic communication with Prof. Vaughan an unqualified denial has just been received by THE JOURNAL; yet the evil and annoying effects of the first report will scarcely be undone. That experiments are being carried on in the direction indicated, and under the careful eye of this investigator, is well known; but the time has not yet arrived for the advancement of the strong statements just put forth.

SPECIAL COMMITTEE.—The following gentlemen are named as the Committee on Organization and by-laws of the National Association of Medical Colleges: Dr. P. H. Millard, of St. Paul, Chairman, Dr. William Osler, of Philadelphia, and Dr. Samuel Logan, of New Orleans. The Committee will report at the forthcoming meeting to be held in Washington.

SECTION OF NEUROLOGY AND MEDICAL JURISPRUDENCE.—The Secretary of the Section on Neurology and Medical Jurisprudence, desires to call the attention of members to the fact that the scope of this Section has been enlarged, and neurological contributions, that formerly belonged to the Section on Practice of Medicine, may now be read in the new Section. The Secretary's address is Dr. Harold N. Moyer, 434 West Adams St., Chicago, Ill.

WORTHY RECOGNITIONS.—Three new chairs have been recently created in the Philadelphia Polyclinic and College of Graduates in Medicine, in the department of surgery, and Drs. John B. Deaver, S. D. Risley and Arthur W. Watson have been called to their occupancy.

DR. KOCH AS A COUNTRY DOCTOR.—The *New Review*, December, contains a sketch of Dr. Koch while he was a country practitioner in Posen. "To eke out a respectable living he pursued the career of a family physician. On many a Polish winter night, jolting in a Polish rural car along a Polish country road, the indefatigable man would drive about to look after a coughing child or an expiring boor, having previously torn himself away from his books to render what assistance he could and earn what little fee he might. A serious, unostentatious and dutiful man through-

out, he, in this and in every other part of his career, commanded the respect of his fellow-citizens, without, however, eliciting any very ardent feelings in his behalf. He never spoke much, though his actions might always be relied on. He never displayed a tendency nor indeed a wish to shine, though he certainly was a proficient in the rare art of doing good. Night and day, in sick-room and in hospital, he had little time to devote to the society of his equals, and in that half Sclavonic province was certainly more popular as a doctor than as a visitor or a host."

BACILLI TUBERCULOSIS IN THE SPUTUM.—That the discovery of bacilli tuberculosis in the sputum may now be said to unquestionably indicate the presence of the peculiar pathological condition we have so long helplessly considered, stands quite without fear of contradiction; yet it seems by no means certain that the absence of microorganism will at once lift the veil of apprehension. Dr. Ludwig Weiss, of New York, states (*New York Medical Journal*) that he has labored with no less than forty different specimens in the same case before "the long-sought for little red bacilli could be brought to view under the microscope," and his argument at once comes that in "the lack of tubercle bacilli is, therefore, not an evidence of the absence of tuberculosis."

This fact should only tend to lead still more to the reliance vouchsafed from the reaction produced by the "lymph" injection.

MEDICAL ITEMS.

THE HYPNOTIC LIMIT.—According to Charcot, not more than one in 100,000 is subject to the hypnotic influence.

ENGLISH CHARITY.—On hospitals alone the English people spent £598,220 in the last year. Taking into account home and foreign missions, religious and benevolent societies, along with provident dispensaries and convalescent institutions, it is computed that every man, woman and child in the United Kingdom contributes three shillings a year.

FACTORY MEDICAL SERVICE IN RUSSIA.—The Russian Government is about to issue an order according to which: 1, every factory or mill situated at 8 *vershs* (about 8½ kilometres) or more from a town shall have a hospital of its own, containing from ten to seventy beds, accord-

ing to the number of hands employed by the proprietor, as well as its own dispensary; 2, a special doctor and a medical assistant (*Feldsher*) must also be in attendance; 3, the district medical officer must exercise sanitary control of all factories and mills existing in his district.

MEDICAL DIRECTOR JOHN Y. TAYLOR, who has been President of the Naval Examining Board for a long time, has just been retired from active service on account of age. If we are correctly advised, Medical Inspector Grove S. Beardsley will be promoted to the vacancy, and Surgeon Edward Kershner, on duty at the Marine Rendezvous, New York, to Medical Inspector, and Passed Assistant Surgeon Samuel H. Dickson, with the "Atlanta," will be promoted to Surgeon.

RESECTION OF THE LIVER.—On December 8, Professor Iginio Tansini, of Modena, performed total extirpation of a hydatid cyst of the liver, at the same time excising a portion of that organ. There was very free hæmorrhage from the large cut surface of the liver, which was controlled by catgut ligatures. The wound in the liver was closed by means of sixteen sutures, partly silk, partly catgut. The operation was followed by no rise of temperature, and the patient (a woman) was quite well in less than a fortnight.

PROFESSOR BARTHOLOW'S SUCCESSOR.—The Trustees of Jefferson Medical College have elected Dr. A. P. Brubaker as the successor to Prof. Bartholow in the Chair of Materia Medica and General Therapeutics.

THE RELATION OF ALBUMINURIA TO PUERPERAL ECLAMPSIA.—Dr. Wm. S. Gardner (Lecturer on Obstetrics in the College of Physicians and Surgeons, Baltimore) in a paper on this subject, arrives at the following conclusions, which are based upon a number of cases cited:

1. The presence of albumen in the urine of a pregnant woman is no sufficient cause upon which to base a prognosis of probable eclampsia.
2. The failure to find albumen in the urine of a pregnant woman is no evidence of the absence, or, at least, of the continuance of the absence, of the condition that gives rise to puerperal convulsions.
3. Albumen is so frequently found in considerable quantities in the urine of patients immediately after the appearance of puerperal convulsions, that we are justified in making the statement that the convulsions are the probable cause of the albuminuria.

TOPICS OF THE WEEK.

DR. KOCH AND THE GERMAN GOVERNMENT.

A well-informed correspondent writes: During the last fortnight various rumors have been telegraphed from Berlin as to the arrangements made, or about to be made, between the German Government and Professor Koch with regard to the future production of his remedy for tuberculosis, and it must be admitted that these rumors have been of a somewhat disquieting character. It has been said that Dr. Koch and each of his assistants, had accepted a large immediate payment, and that they were to receive a royalty upon all sales in the future. Thus stated, the arrangement, it must be admitted, would partake far too much of the commercial transaction to be agreeable to the traditions of the medical profession, or the customs of men of science. It is, however, easy to give an unfavorable complexion to a transaction really of an honorable nature by inverting the steps by which the final results have been obtained and so misrepresenting their character. It may be well to recall the circumstances under which the lymph has been discovered, and the position of Dr. Koch in relation to the German Government. Dr. Koch has been for many years the director of the Hygienic Laboratory in Berlin. This laboratory is a Government institution, maintained by the Educational Department of the German Government, and Dr. Koch, as its director, has been an officer of that department. All the earlier experiments for the discovery of the now famous lymph were conducted in Dr. Koch's own laboratory in the Hygienic Institute, and there the observations upon guinea-pigs and other animals, which emboldened Dr. Koch to proceed to inoculate human beings, were made. The laboratory, however, presented no facilities for making these investigations upon human beings, and Dr. Koch holds no official position with regard to any of the Berlin hospitals. He therefore found himself in a practical dilemma, inasmuch as if he were to make his experiments in a public hospital it was feared that the premature and eager discussion of incomplete observations and immature results might easily tend to interfere materially with the investigations and to produce evil results. Dr. Koch consequently hired a private house at his own expense, and obtained the assistance of two gentlemen with whom he had private acquaintance—Dr. Libbertz, an old school-fellow, and Dr. Pfuhl, his own son-in-law. The lymph was prepared in considerable quantities in this private house by these two gentlemen under Dr. Koch's supervision, and the earliest injections in man were made in the private hospitals of Drs. Cornet and Levy. It soon became evident, however, that the interest, both among the general public and in the medical profession, was too keen to permit of the continuance of the investigation upon these lines; and Dr. Koch, acting on the advice, or perhaps it might be correct to say upon the instructions, of Herr von Gossler, the Minister of Education, published the now famous preliminary paper, and distributed the lymph to certain of the hospitals in Berlin. Meanwhile, the manufacture of the lymph was carried on in the pri-

vate house by Dr. Koch and his two personal private assistants. Recently this arrangement has ceased; the house in which the lymph is manufactured has been taken over by the Education Department of the German Government, and Drs. Pfuhl and Libbertz have become officers of that department. The Koch Institute, which the German Government are now erecting, will consist of two parts—a laboratory and a clinical department containing 150 beds. The clinical department will probably be under the direction of Professor Brieger. The observation and treatment of the patients received into it, it is hoped, will afford in the future opportunities for Dr. Koch to prosecute his studies with regard not only to tuberculous diseases, but to tetanus, diphtheria, and typhoid fever. In this way the inconvenience which has arisen from his having no clinical wards of his own will be avoided.

In the laboratory bacteriological investigations will be carried on, and at the earliest possible date the laboratory for the preparation of the anti tuberculous liquid will be transferred to this department of the Koch Institute. The director of this bacteriological department has not yet been appointed, but the whole institute will be under the general direction of Dr. Koch, who will remain an officer of the Education Department. It is probable that the German Government will offer to Dr. Koch some recognition of the great services he has rendered while acting as a German official, such as was voted to Jenner for his services in a cognate research, and more recently to Pasteur, in France. Large national awards have repeatedly been made to successful generals in Germany and in other countries, and it is felt that there is no reason why a man of science, who has worked for the relief of human suffering, should hesitate to accept a reward which the destroyers of men have never felt the least difficulty in receiving. As to the further rumor that Dr. Koch and his assistants may receive a payment as it were by results in the future, it may be hoped that this rumor is unfounded. Anything like the sale of a secret or the paying of royalties on a remedy would be contrary to the Hippocratic tradition.—*British Medical Journal.*

GROWING KNOWLEDGE.

The editor of the *Educational Times* has been insisting in a recent article upon the importance, as he puts it, of "growing knowledge" in the minds of children. The lesson is one which teachers as a body are, perhaps, slow to learn, but it has certainly obtained a considerable amount of recognition in recent times. But, notwithstanding, the parable of the *Educational Times* is always seasonable. It is pointed out that knowledge must be apprehended, appropriated and assimilated by the mind very much as the elements of vegetable tissue are apprehended, appropriated and assimilated by a plant. There is a sense in which every student may adopt the aphorism maliciously attributed to the "Master of Balliol College," that

"What I don't know isn't knowledge."

The binomial theory is useful information for anybody, and indispensable knowledge to the mathematician, but

to such as have but little mathematical faculty it is information, and nothing more. So with the Greek syntax or Latin composition. To the classic they are elements of knowledge, to the pedant mere shreds of information which never germinate in his mind, and are incapable of ever becoming fused into a coherent habit or scheme of thought. In the acquisition of such indigestible materials there is much pain and very little profit, and it cannot, therefore, be too often or too forcibly brought to the minds of teachers that their true function is not to fill a vacant mind, but to preside over the birth and development of nascent faculties. If the faculties are supplied with suitable pabulum they will spontaneously exercise themselves upon it. The wise teacher is he who happily discerns what faculties are dominant in his pupil, and what treatment is best adapted to stimulate and develop them. This view of a teacher's work receives, we believe, a much more general and effective recognition at the present than at any former period, and we are glad to find it from time to time put prominently forward in the accredited organs of the teaching profession.—*Lancet*.

TREATING CONSUMPTION BY MEANS OF INHALATIONS.

In the December number of the *Harper Hospital Bulletin*, Dr. Shurly publishes, with illustrations, his method of treating consumption by means of inhalations. Chlorine gas, in the presence of the vapor containing chloride of sodium, forms an important element in the treatment, and he is sanguine his plan possesses great curative virtues. He reports a number of cases illustrating the variations in applying the method. It does not appear that he neglects the provision of a pure atmosphere, of suitable food, and all the other well-known agents by which this disease has been combated; so that the question respecting his specific treatment is to determine the benefit derived from the old measures, plus the faith awakened by the use of the new, and the new by itself. When he is able to show this then the profession will be in position to determine the exact value of the new features which he has contributed. We shall all hope that these are equal if not greater than Koch's claims for his "lymph." Too many remedies for the cure of consumption cannot be given the profession.—*American Lancet*.

IMPORTANCE OF A DEPARTMENT OF RAILWAY SURGERY.

The railway surgeon has long since served the probationary period once allotted him and is now a fixed fact. He has already proved himself a financial reality and has come to stay. When we consider that notwithstanding all the consolidations of various railroad lines into great systems, and thereby the abolition of many lesser lines, there are still, in round numbers, about 600 independent systems of railroads in this country employing almost 1,000,000 men daily, who are in constant danger to a greater or less extent, according to the position they hold, of receiving personal injuries, saying nothing of passengers and others subject to the same dangers, it is certainly very easy to see the necessity of maintaining regularly organized departments of surgery, not only for

the protection of the employes alone, but for the financial protection of the incorporations from exaggerate or fraudulent claims.

Allowing an average of but ten surgeons to each separate system it would require an army of 6,000 surgeons to perform the services required by the railroads of our country, which estimate we are certain is far below the reality.

We doubt whether the standing army of the United States to-day numbers over 25,000 men, or in other words an average of about one soldier to every forty railroad employes, and the soldier in time of peace is not exposed to even one-fortieth of the physical danger that the average railroad employe is subjected to; and yet the federal government has long since settled the question of the necessity of maintaining a well organized and well paid corps of surgeons, not for the protection of the soldiers alone, but for the protection of the government against fraudulent claims for pensions; and notwithstanding all this, the government is to-day undoubtedly paying many questionable pension claims every quarter.

Of course there are railway companies even at this late day which do not employ regular surgeons, but that does not prove that it is economy not to do so, or that their success is due to such policy. Not long since we were told by the general manager of one of the largest railway systems in this country, a gentleman whose success as a railway executive is unquestioned, that he "would just as soon think of parting with his freight department as to dispense with his department of surgery." He went on to say that he spoke from years of experience that had proven to him the facts on which he had based his opinion; and we will add in addition to what he has said, that no better system of surgery is conducted on any railroad in this country than on the road he represents.—*Railway Age*.

A NOBLE RECORD.

It is said of Dr. Kerr, a medical missionary of the Presbyterian Board at Canton, that he has in the past thirty-six years treated over 520,000 patients and has prepared twenty-seven medical and surgical books. He has trained 100 medical assistants, chiefly Chinese.

SANITATION AND BACTERIOLOGY IN AUSTRIA

The Chamber of Deputies in the Austrian Parliament considered on December 12 the report of a commissioner appointed to inquire into the proposals made by a Deputy, Dr. Roser, for the creation in Austria of an Imperial Sanitary Bureau, after the model of the institute established at Berlin for the whole of Germany. The report recommended the adoption of a series of resolutions demanding the foundation of chairs of hygiene and bacteriology in the faculties of medicine, the introduction of hygiene into the medical curriculum as an obligatory subject, the improvement of the public sanitary service by an increase of the number of doctors nominated by the State, and a general reform of the pharmaceutical department. In the course of the debate attention was drawn to the advantages which Dr. Koch had enjoyed in the Imperial Sanitary Bureau at Berlin, and satisfaction was expressed at the recent decree of the Austrian Minister of Instruction dealing with the question of hygiene in schools.—*Brit. Med. Jour.*

SOCIETY PROCEEDINGS.

Chicago Medico-Legal Society.

*Regular Meeting, December 6, 1890.*EDMUND J. DOERING, M.D., PRESIDENT, IN
THE CHAIR.DR. HENRY M. LYMAN read a paper on
MONOMANIA.

(See page 190.)

DR. D. R. BROWER: Dr. Lyman has given the most salient feature of this most interesting form of insanity, and so scientifically that there is really very little to be added. There is one point for which I wish especially to commend the doctor, and that is his objection to the term "monomania," the designation by which these cases are known by most of the American and English alienists. As he has stated to you, there is nothing about these unfortunate people suggestive of mania. As a rule, there is no mental disturbance manifest in their daily talk—they are cool, calm and collected, seemingly, as the majority of persons in this audience; and the monomania of the designation is scarcely clinically true, because it is an exceedingly uncommon thing for any of these insane people to have their insane disturbances manifested only in a single direction. I commend Dr. Lyman especially for his preference for the word "paranoia." Paranoia, going back to its derivation, simply means a disturbed mind, and does not express any especial feature in the clinical history of these cases, but then it has the advantage of not teaching error. So far as it teaches anything it teaches the truth; they are persons of disturbed minds. There is about these cases of monomania so much plausibility, so much reasoning capacity, so much ingenuity in pressing home their vagaries, that they will pass, under almost any ordinary circumstances, as persons of perfectly sound mind. The great majority of them are not in the insane hospitals. They are to be met with by observing people very frequently; they are to be seen in our own profession. My attention was called the other day to the case of quite an eminent medical gentleman of this city who is undoubtedly a paranoiac, and yet he is a successful practitioner of medicine, not only in regard to the results of treatment but in the financial success that has attended his efforts. Quite recently he has been doing things that, to say the least, are very remarkable. He happened to meet casually a lady of this city of high social standing and undoubted virtue, and became enamored of her at once, without any acquaintance with her. He began sending her presents, he sent her several valuable diamonds, bouquet after bouquet, tickets to the theatre, and so on. She did not know from whom these things came, they were left at the door by a messenger, and that

was all that was known about them. The door bell would ring, the servant would receive them and the messenger depart. This man never had any conversation with her, but he became possessed with the idea that she was in love with him, as he thought he was with her. The thing became so annoying to her that finally the messenger was detained until a policeman was sent for, and in that way the identity of our doctor was determined.

I saw only a day or two ago a young lady of this city, a paranoiac, who is a most admirable stenographer; she is engaged to-day in the office of one of our prominent lawyers, and she must do her work in that office well or this legal gentleman would not employ her. She has been in his service for a number of years, and I do not suppose that he suspects her mental vagaries. She is one of those paranoiacs who are continually afraid of being befouled; she never touches anybody's person if she can help it, never shakes hands with any one, and if she should be so unfortunate as to be compelled to do so her hands must be immediately washed. She carries with her always what she regards as a powerful antiseptic, and after she washes her hands she cleanses them with this antiseptic. Some few years ago it seemed as if it would be necessary to deprive her of her liberty. She has now and then persecutory delusions about her family—she won't live with her parents, she sometimes lives with a sister, but frequently changes her place of residence on account of the persecutory delusions that spring up. It is a surprise to me how she has so long and faithfully pursued her occupation without her vagaries being suspected. As Dr. Lyman has told us, very many of these paranoiacs, or monomaniacs, while they are possessed of these delusions, yet outside of that they have a great deal of mental power, and some of them have done a great deal, in various ages, towards modeling society and forming religious societies. There are some that I scarcely dare mention in this community because I would be afraid of the storm that might be raised about my ears, but we mention Mahomet; you must all regard him as one of these paranoiacs. I think Peter the Hermit belongs there also, and Louis Riel, of Canada. And some of you must admit that Charles J. Guiteau is of the same class. The case of Guiteau was one of the most interesting that has been tried recently. In that trial the great leaders of psychological medicine were arrayed against each other; my distinguished and eminent friends Dr. Gray on one side and Dr. Spitska on the other; two great giants in psychological medicine arrayed against each other. Many facts in the history of Guiteau were ascertained after the trial that more fully brought out his paranoiac characteristics than anything that appeared at the trial, and I presume some of the distinguished psychological gentlemen who

were on the side of the prosecution might have thought differently had they been aware of these facts.

This brings up another very interesting question in reference to these paranoiacs, and that is as to their responsibility. That is a branch of the subject upon which Dr. Lyman touched very lightly, but is very important. While I am willing to class under this designation of paranoia a very great many persons who are outside of the insane asylums, yet I believe that the great majority of paranoiacs have at least a certain degree of legal responsibility, and had I been on that Guiteau jury I don't know that I would have brought in a verdict of hanging, exactly, but I certainly would have insisted upon imprisonment for life. I think these paranoiacs should be held to a certain degree responsible for crime. They have a certain measure of control of themselves—more than they are very often willing to exercise. The degree of responsibility should be determined in each case.

The paranoiacs are more or less dangerous people. Some one has said that if they lived long enough they would all of them be homicidal, and certainly there is more or less tendency in all to acts of violence, and they require restraint of some kind; I do not think they are safe people to be at large in anything like the proportion in which I believe they are. Let the occasion arouse their imperative conceptions, and their impulses, growing out of their delusions, may lead to acts of violence, and the danger of this is greater with their advancing years. Then there is another point about these paranoiacs that Dr. Lyman dwelt upon very lightly, but which is very important; that is the fact that most of these paranoiacs have other defects than the mental ones. The great majority of them come into the world with such defective construction that we can easily recognize them. There are defects in their general configuration, defects in the shape of the head, in the facial lines, in the arms, or in the legs. These departures from normal structure are often important aids to diagnosis.

I am very glad to have been present and heard Dr. Lyman's admirable exposition of this important subject.

DR. ARCHIBALD CHURCH: In view of the fact that the subject has been very thoroughly presented by my masters, the gentlemen who have preceded, it would not be becoming in me to detain you long with an attempt at further exposition of this matter. It is, however, one of great interest and of great importance. The difficulties arising from it are illustrated in Dr. Brower's remarks: He spoke of the legal responsibility in these cases and said that in the majority of instances a certain degree of responsibility must be attributed to them before the law. He also told us that in the majority of instances a

homicidal tendency would sooner or later be developed—a tendency for which they are not responsible. I am inclined to believe that in this form of disease there is a large degree of irresponsibility from the first, and this leads me to emphasize Dr. Brower's recommendation that more of these paranoiacs should be under control.

It is not necessary for me to go into the terminology of the affection except to point out that in some instances it has run wild. By some German authors every variation in the disease has received a special designation; for instance, an individual who had the peculiarity of stealing women's shoes was classified under the term "frauenschuhtelstmonomanie."

These paranoiacs are the people who are known in their communities as the "peculiar people," they are the men who ride their hobbies rough shod over everybody; they are called "cracked," and somebody has said that through these cracks sometimes light has been shed on the world, and that is true. Peter the Hermit, John Bunyan, Swedenborg were all paranoiacs. It is in these cases that genius is akin to madness.

In the case Dr. Lyman mentioned, the young man who considered himself the son of the actor Booth, and who not being recognized by him, after following and persecuting him with his attentions for a number of years, from one of the galleries of a theatre here fired his pistol at the actor on the stage, clung to his delusions until death. He believed himself a great actor, and subsequently sought vengeance against those whom he considered his oppressors. The man Joel Henry Wells, who presented in his family history well marked evidences of insane heredity, also to the day of his death clung to his delusions of grandeur, which fortunately in his case never took on the persecutory type. He believed himself the descendent of a noble French family and up to the time of his death signed himself Henri de Travis. After his liberation from the Elgin asylum, done by legal process under habeas corpus proceedings, and when he was pronounced sane and capable of caring for his property, by the judge, he entered into business in Chicago and conducted it satisfactorily, maintaining himself and family comfortably, but always signing himself Henri de Travis, and always insisting that he had been abused and persecuted. Scarcely a month passed that the hospital did not receive some communication from him threatening prosecution and suits for damage, and probably there is not a prominent lawyer in this city but has been approached by him with requests to take up these suits. At his death he bequeathed an enormous property which was as imaginary as his name. The peculiarity in this malady has been tersely expressed by Seglas as an hypertrophy of the ego. With these people it is always the great I am. This peculiarity distinguishes

them when they become depressed, this enlargement of the ego still persists.

The melancholic individual believes, on the other hand, that he has committed some crime or done some misdeed, that the blame is his own, but the paranoiac fancies that he has been sinned against and that because of his importance a conspiracy has been formed to keep him down; they look at the situation from diametrically opposite standpoints. Clouston tells of an old man of benevolent character and generous impulses, with a very liberal education, to whom was entrusted in his asylum the keeping of the books and a large share of the records. You might know this man for months and in his ordinary conversation he would never manifest any peculiarity, but he believed that two and two made four and a quarter. In deference to the prejudices of the asylum management he kept their books by the old method, but for himself he established a new system of arithmetic and mathematics; he constructed enormous tables of logarithms, and carried his theory through the higher branches of mathematics and left immense manuscript volumes to the University of Oxford, that his discoveries might not be lost to the world. It is these individuals who make so much trouble in the courts; it is, as you can all see, a matter of great difficulty to determine, sometimes, not only their insane state, but beyond that to determine how much they may be trusted with their liberty provided they are considered of unsound mind. A case which probably has many times come to your attention is the young man who pursued Mary Anderson for many years, being possessed with a platonic love for her and believing that love was returned. He was finally apprehended in New York and committed to the asylum; he clung tenaciously to this idea but in every other respect he seemed to be perfectly sane, yet this idea dominated his conduct and mental methods completely. Eventually he was liberated from the institution, contrary to the wishes of the management, and only a few weeks ago he returned to the asylum, full of the idea that he had been unjustly persecuted and deprived of his liberty, and with a revolver fatally shot one of the assistant physicians. His expressed intention was to shoot the whole staff.

I might point out to you that the great crimes done by insane men are done by those who are trusted. An insane man is dangerous, I believe, in proportion as he is trusted. If you know he is dangerous you will guard against him, but if you believe him trustworthy he has the opportunity of perpetrating terrible deeds. I am of the opinion that we should take greater pains and make more strenuous efforts to put in safe keeping these paranoiacs who now are going about the streets.

There is another point I wish to call to your attention; these individuals, in the vast majority

of cases, are afflicted with hallucinations of the senses, and very often of the sense of hearing. They hear the voices of people on the street calling after them with abusive epithets or in libelous terms; they hear commands from on high, as did John Bunyan; they may hear orders from the Almighty to kill. Whenever you find systematized, persisting delusions with hallucinations of hearing you will be safe in giving an unfavorable prognosis, because nine times out of ten they pertain to paranoiacs the majority of whom die in the insane hospitals.

DR. HENRY M. LYMAN: I hardly think I can add anything to what has been said, the ground has been very thoroughly covered. If there were time it would be interesting to introduce cases, but the details of the subject have been well presented to the Society by my associates. One point suggested itself to my mind with regard to Joel Henry Wells which it seems to me would throw light upon some of the conflicting opinions in reference to the relation of paranoia to other insanity, it being the opinion of some that all cases of systematized delusion should be called paranoia whether they be primary or secondary to other forms of insanity; but others claim that paranoia is always congenital and that it is hereditary. There was this fact in the history of Wells: he was committed to the asylum in a state of very great exaltation, acute mania was his condition practically at the time he was sent to the asylum, and his delusions assumed their greatest importance after that period of excitement. But this thing was brought out on the trial of the patient—the explosion of mania, which, if it had been an initial symptom and if there had been no history of any hereditary defect in the family, would have been looked upon as the starting point for the evolution of secondary paranoia; was shown to be only an incident in the course of disease, as the man had years before manifested symptoms of an unsound mind, having had delusions in regard to the location of property. His brother-in-law said that the first thing he noticed wrong was when he was going to build a house, that he insisted upon putting the house on the next lot to his own, he would have it that the house should be built upon another lot. At that time his friends looked upon that circumstance as evidence of unsoundness of mind. I have no doubt it was evidence of the congenital defect originating in antenatal influences, which at that time first showed themselves, for it is usual after the individual has grown up and reached man's estate for these to become most conspicuous.

Then the fact of there being marked symptoms of insanity without bodily disease is also worthy of note, for I think careful observation will in the vast majority of these cases show a very grave defect in the development of the body, so much so that when I see a person with certain marked

vagaries of form, feature, and cranial development I am almost instinctively led to suspect the existence of mental obliquity, at least. These cases are of the paranoiac type, and the disease seems to bear a relation to other insanity very much like that borne by congenital idiocy; and it should be classified with idiocy, since the obliquity of character and the development of peculiarities is dependent not so much upon the actual existence of disease of the brain as upon the workings of a badly formed and ill constituted brain. The matter of hallucinations is really very important, for it is sometimes the only evidence of the existence of this defect. A gentleman walked into my office the other day, who to all appearances was a man of excellent health and fairly well developed body, but it came out upon inquiry that he had been subject for years to paroxysms of suspicion. He would walk upon the street, and on reaching home would insist that somebody had insulted him, that somebody had looked at him in such a way as to show that they meant mischief; he had heard people whispering about him as he passed them, which led him to believe that they had designs against him. On one occasion a friend came to his room on business, and without any provocation this man leaped from his chair and dealt his friend a blow in the face, and a few days afterwards meeting him on the street he apologized for the act. I am convinced from the family history and characteristics of other members of the family that this is a case of indubitable paranoia—the incipient stage of paranoia, which may result suddenly some day in a violent explosion. These hallucinations of hearing that Dr. Church has spoken of are also very significant. I know a case in this city today of a professional man who presents in his general appearance all the characteristics of perfect health; he is a large, well formed, muscular looking person, and yet that man is and has been for a long time under the delusion that somebody is speaking to him. I have a number of letters from him telling how people are speaking and telephoning to him, and he has at last discovered that it is a conspiracy on the part of the Jesuits to convert him to Roman Catholicism, and these are the means which they take. In every other respect he appears like a man of good health, he is intelligent, talks freely about his case, but will not admit that he is insane. So it is with many of these cases. Dr. Brower has well said that they exist in all grades of severity from the dangerous homicide down to the person who simply labors under the delusion that there is a snake inside of him, or that there is some constant conspiracy working against his welfare. They are the cranks, the cracked persons, the eccentrics of society. Many of them by their very eccentricities, the one-sided nature of their characters, have accomplished a great deal of good in the world as

well as a great deal of harm. I think that in this State we are laboring under the injustice of a law regarding the commitment of the insane that was procured by one of these persecutory paranoiacs.

Allegheny County Medical Society.

Special Meeting, November 18, 1890.

W. S. FOSTER, M.D., PRESIDENT, IN THE CHAIR.

Concluded from page 175.

DR. MURDOCH reported the following case:

DISLOCATION OF THE HIP REDUCED BY MANUAL EXTENSION.

S. B., a powerful young man, was brought to the Western Pennsylvania Hospital last Friday (Nov. 14) presenting the usual symptoms of an upward and backward dislocation of the head of the femur. He stated that two hours previous to his admission, while engaged in pushing a car loaded with coke along the track, bending forward and exerting all his force, another loaded car unexpectedly came up behind and struck him with great force upon the buttock, forcing him against the car which he had been pushing. When he had been disengaged from the position in which he had been caught, he found that he was disabled in the hip. A number of physicians had been immediately called, and an attempt made to reduce the dislocation. This attempt having failed, he was at once sent to the hospital.

Upon examining the patient, it was evident that the head of the right femur was dislocated upon the dorsum of the ilium. The patient was a very powerfully built young man, with unusual development of the muscles, especially those of the gluteal region. For this reason, before any attempt at reduction was made, he was most profoundly anesthetized. An effort was then made at reduction by the methods recommended by Reed, of Rochester, and Bigelow, of Boston. The leg was flexed upon the thigh, and the thigh upon the pelvis in an adducted position. It was then strongly abducted, rotated and extended. This manipulation was repeated several times, with a complete failure each time. Other manipulations were tried, with no better success, until the operators were entirely exhausted.

I then resolved to make use of extension, which had often before succeeded in my hands. A young medical student who was present was asked to remove his boot, and placing the foot on the perineum against the ramus of the ischium as a counter extending force, extension was made with the hands grasping the thigh and leg, the direction of the extension being across the middle of the sound thigh. In this position the thigh of the dislocated limb is flexed almost to a right angle with the pelvis. The surgeon is also called to

assist in the extension by standing behind the assistant who had his foot on the perineum. The surgeon can also, while in this position, change the direction of the force and rotate the limit as may be necessary. In this manner, at the very first effort, and without much force being used, the head of the bone slipped, with a sensation which could be felt, into acetabulum. Upon inspection and movement, the deformity had entirely disappeared.

While it has been my fortune to see a good many dislocations of the hip reduced by manipulation alone, still this is the seventh case of which I have knowledge when it has failed, and when extension applied in this simple manner has been successful.

A few years ago, I reported to the Medical Society of the State of Pennsylvania a history of six cases of this kind. This report may be found in the Transactions of our State Society for 1886. From the experience which I have had in these, and other cases, I am persuaded that this simple method of extension and counter-extension should always be resorted to before making the effort by manipulation.

The method by manipulation is not so harmless as some of its advocates assert. The shaft of the femur which is made use of when manipulation is resorted to, is the long arm of the lever, the Y ligament is the fulcrum, and the neck of the femur, with the force which can be applied to it, is liable to give way. Fracture of the neck of the femur has, in this manner, been produced by some of our best surgeons. Such men as Jas. R. Wood, Post, and Markoe, of New York, and many others, have had this accident happen while attempting to reduce dislocations of the hip by manipulation. But even if no fracture is produced, the sweeping round the acetabulum of the head of the femur, as occurs during this manipulation, lacerates and bruises the capsular ligament and other structures in an unnecessary degree.

The violence produced by extension in the manner which I have indicated, cannot produce such injury; and is, as I believe, more likely to succeed.

To Henry J. Bigelow, the distinguished Professor of Surgery in the Medical School of Harvard University, we are indebted for teaching us how important a part the anterior capsule of the hip joint (viz.: the Y ligament) plays in luxation. He has taught the profession that to reduce the dislocation it is first necessary to relax this ligament. This is accomplished by the method I advise, because the thigh is first flexed upon the pelvis before any extension is made. Moreover, we now know, that in nearly all dislocations of the hip, that it is the lower and inferior portion of the capsule which gives way. It is here that the acetabulum is most shallow and the ligament has least strength.

It is the opinion of our best modern surgeons that nearly all dislocations of the hip are primarily downward, and that when the head of the femur is found in any other position, whether upon the dorsum ilii, into the sciatic notch, or upon the pubes, that this position is secondary to the downward.

If this be so, and there is little doubt of its truth, it surely seems likely that the pulling the head of the bone downward to the place where the rent in the capsular ligament has occurred, is the best direction in which to apply the force.

In other words, the dislocated head of the femur must, in order to find its place in the acetabulum, retrace the steps which it took after leaving it.

I would, therefore, advise that in the reduction of a dislocation of the hip, no matter what the position may be, after thoroughly anesthetizing the patient, the attempt at reduction should be made in the manner indicated.

It is probable that much of the popularity which the method by manipulation has received, is owing to the fact that anesthetics came into general use by the profession about the same time that Reed, of Rochester, described his method of reducing dislocations by rotation and circumduction.

DR. BUCHANAN: I wish to say that I heartily agree with Dr. Murdoch in the position he has taken relative to the choice of methods of reduction, for the shoulder as well as the hip. I think the effort by extension should be tried first, for the reason that, as Dr. Murdoch well expresses it, by extension and without the use of pulleys, simply manual, no harm can be done; whereas, any man who has ever held a patient's thigh and put the head of the bone into its socket by the method of manipulation, could not but have felt grateful, when the head of the bone passed in its place, that he had not broken the femur. If he fails by extension, he feels that he has done no harm, but if he fails in his trial by manipulation, he feels that he may have done much harm. I think that the resistance of muscular tissues and fibrous tissues, when the patient is thoroughly under the influence of an anæsthetic, is very much over-rated. Within a couple of weeks, I have put in two shoulder-joints by the method of extension without anæsthesia, and with no trouble whatever, almost lifting the head of the bone into place. One was an exceedingly muscular man, and I am satisfied that if I had put the patient under an anæsthetic and attempted the method of manipulation, I would have had much more trouble and might have done a great deal of harm.

DR. STEVENSON: I think the fact that surgeons of equal eminence and experience differ so widely is proof that cases differ. Some cases are more easily reduced by one method, other cases

can be reduced by another and by that alone. Dr. Murdoch's idea of dislocation taking place at the lower part of the acetabulum would seem to coincide with my experience in reducing them. They seem to return at that part of the acetabulum. A gentleman invited me to go with him to witness the reduction of a dislocated hip by the pulley. He said his brother had seen the case about six o'clock in the morning, and made a very continuous effort at reduction, and had failed, and he had asked me to accompany him. There had been an unsuccessful attempt made for two hours to reduce the dislocation, and it was concluded that it was impossible to reduce it without pulleys. I took hold of the limb, which was rigidly fixed; it would not go in, it would not go out. I asked the doctor if he had any objection to my trying to reduce it by manipulation. None at all. So I flexed the foot on the thigh, flexed the thigh well up on the abdomen, carried it across the body, carried it down and straightened it out, and the head of the bone slipped into place. This case was not etherized. We had just come in and this was done preparatory to commencing the operation with pulleys. I saw another case in which the femur was dislocated, the leg was thrown across the other limb. I reduced that in the same way. That was done without any anæsthetic. All cases could not be reduced in this way; I do not pretend to the skill in surgical operations that I know my friend Dr. Murdoch has. His experience is much greater than mine. I saw a case while practicing in Westmoreland county in which three or four doctors worked an hour and a half, effecting the reduction by means of extension and counter extension, and that was twenty-five years ago, before this method of manipulation was well understood. I have no doubt that in all these dislocations it is the ligament of the hip-joint that holds the limb rigidly fixed in its place. It is not so much the muscles as the ligament. Now, if the head can be made to retrace the path that it took in getting into the false position, I think there is no injury done to the ligament. I think there is no injury done to the joint. The idea of manipulation is not force; it is handling, coaxing—taking the thigh and so handling it as to make the head of the bone retrace the course it took in passing into the position in which we find it.

I cannot conceive that manipulation done cautiously and carefully can do any particular injury to the hip joint, but I can conceive that a man, or two or three men, pulling with vigor and violence, and using counter force may do great injury to a joint. I would feel disposed, from the experience I have had, to try the manipulation first. If it fail, then resort to something else.

DR. KOENIG: My experience in dislocation is

rather limited, but it goes to show that some cases are reduced readily by one method while others apparently are very easily reduced by another. While resident at the West Pennsylvania hospital, a case of dislocation of the femur was brought in, and being very anxious to try my hand at what, if I remember aright, I had never seen done before, I, together with the other resident, then serving with me, attempted to reduce that dislocation by manipulation under ether. The first attempt I made was unsuccessful, but the second one, much to my surprise, was attended with success with the use of but little force. Lately a dislocation of the shoulder presented itself at the Dispensary, and I attempted to reduce it by extension, possibly not quite after the easy method which has been detailed by Dr. Buchanan; reduction, however, proved unsuccessful to me. But in the hands of one of my colleagues it was easily accomplished.

DR. MURDOCH: I do not claim to have greater experience in the dislocation of the hip than others, though I have seen a good many dislocations. One of the first cases I ever saw, was in the army of the Potomac, where a powerful teamster had dislocated his femur, and where there were probably three hundred surgeons present, and an effort had been made by manipulation to reduce it for a couple of hours before I happened to join the company. When I got there, the patient was thoroughly anæsthetized. By very slight effort, I took hold of it and it went back into the joint. I received quite an ovation. I believe as Dr. Stevenson says, that the majority of surgeons have until recently thought the method of manipulation should always be tried first, and that has been the case at the West Pennsylvania hospital, and the resort to manipulation has usually been successful. The rule is that success is reached. But as I say we have found seven cases there in which we failed, and which were very readily reduced by the method of extension and counter-extension. Dr. Stevenson says he cannot conceive how a man can do much injury in manipulation. I give him cases of four fractures of the neck of the femur. I think it does not take much power of imagination to see how this powerful lever may break the bone. The point I desire to make is, that the amount of extension which can be made by the unaided hands should be tried first. I am beginning to believe that it is the proper course and that much damage may be saved by such a rule.

DR. MCCANN: I agree with Dr. Murdoch in the main. From one part of his remarks I must dissent; that is, that dislocation does not occur at any other place than at the lower and anterior portion of the acetabulum. I have had, in my experience, an example in which the capsular ligament was torn anteriorly to the outer side in

a case of dislocation, a case in which the patient died shortly after an accident and in which, after his death, effort was made to reduce the dislocation, which was effected by manipulation. I think that in the majority of cases it is wise to resort to extension in trying to reduce a dislocation, but I look with horror upon the pulleys, and have never resorted to them. I have seen them used with a patient under the influence of an anæsthetic, and have seen an awful amount of force used to put the head back into its normal position—more force than I have seen used in manipulation. I have seen some of the cases to which Dr. Murdoch refers. I admit there are cases where this is the proper method, and it may be proper to resort to it always, but to rely upon or go back to the old method of extension is a step backward. Now, as to manipulation, whenever that degree of force is used which will fracture the femur, it is improper. There should be no force used. The weight of the limb guided by the hand should put it in.

DR. MURDOCH: I would like to say to Dr. McCann when he speaks about going back to extension that those gentlemen who think manipulation is a modern method do not know history. The method of manipulation was used by Hippocrates. It has had advocates all the way down the ages from time to time, has been used and abandoned. Manipulation is the older method of the two. Sir Astley Cooper's method of reducing a dislocation was to suspend his patient by the dislocated limb to the branch of a tree, and if this was not successful, the surgeon might add his own weight. Now I hope I have not been understood as advocating the use of pulleys or any other powerful mechanical means. I have been careful to say that such extension should be made by the unaided hands.

DR. McCANN: This morning I had to reduce an old dislocation of the shoulder, which had been out of place for seven weeks. It is a curious fact that men will overlook dislocations of the shoulder joint. Many physicians will not take the trouble to anæsthetize patients and to employ the well-known rules to establish the diagnosis. It is my opinion that the old dislocation is not a safe thing to deal with, because of adhesions which fix the head of the bone in the new position. Adhesions are liable to implicate the artery and vein and nerves. Manipulation then in an effort to reduce such a dislocation is liable to be followed by serious accidents. Injury to artery, vein and nerves may happen. Then there is another thing; the binding down the head of the bone may be so firm that unwonted and unusual efforts to reduce the dislocation, to force the head of the bone back into its normal position results in a fracture of the bone itself. These are the dangers. The method which I pursue is first to endeavor to loosen the head of the bone thoroughly

from adhesions by passive motion; to break down the adhesions by moving the arm in all directions until you feel that everything is loose. This will require several minutes, five or ten or more minutes may be thus consumed. Then I begin the reduction proper, usually by drawing the arm directly upward in a line with the body. By this method I have succeeded in reducing dislocations, six, seven, twelve and sixteen weeks old. I have never had any accident.

DR. BEATTY: I understood Dr. McCann to say the physician would not take the trouble to make the necessary examination. I would ask whether he would advise that the patient be put under an anæsthetic so as to complete examination in a dislocation of the shoulder?

DR. McCANN: I would simply say that when you are in doubt, it is always a good plan to make certain; it is always a good plan to call in some friend as counsel, anæsthetize the patient, make yourself sure that you have a dislocation or that you have not. I think this is safe practice and I believe it proper it should be pursued in every case of injury of the joint in which there is doubt.

DR. BEATTY: I explain why I made this inquiry. A short time ago I was called to see an aged lady who was very fleshy about the shoulder and had all the characteristic symptoms of dislocation. She was able to put her hand upon her opposite shoulder, and she could do many other things that led me to suppose that she had not a dislocation of the shoulder, and being an aged woman, I seriously thought we had better let her alone. She was so fleshy that I could not find the head of the bone. I concluded that the best thing to do was to put my patient under the influence of ether and then make an examination. I had the assistance of a nurse, got the old lady under the influence, made the examination; the thing slipped in and the dislocation almost reduced itself. Had I not etherized my patient she would probably have gone with that shoulder dislocated the rest of her days.

DR. RIGG: It occurs to me that a very frequent cause of overlooking dislocation of the shoulder joint is the statement of the patient. That has been brought forcibly to my mind twice. Once a miller had his arm caught in the belting of his mill. He paid no attention to it, being subject to muscular rheumatism; he went to the office of a neighboring physician and told him he had a severe attack of rheumatism in the arm, and would like him to inject morphia. The physician made no examination, injected the morphia, and gave the man something for rheumatism. The man went around with his arm in this shape for months. This was in March. About the middle of August I was passing his house one day and he asked me to stop and look at his arm. I went in. I had seen him frequently on the street and always in that position, he never seemed to move his arm.

I thought he must be suffering from a dislocation, and asked him to allow me to examine the joint. I did not give him ether in the reduction of it. I told him we would first break up the adhesions if he was willing to stand it. He agreed to this, and after the adhesions were broken up, the dislocation was reduced very readily. I did not give an anæsthetic. Another case, a man fell from a moving train, falling on his shoulder and simply stated to the physician that he had fallen off the train and struck his shoulder. The physician did not look for a dislocation. It was allowed to go for about ten days. So that I think it is always necessary to inquire carefully, and in some cases to use an anæsthetic when in doubt.

SPECIAL CORRESPONDENCE.

Shall The Journal be Removed to Washington?

To the Editor.—As a member of the Association I oppose the removal of THE JOURNAL to Washington City. I cannot see any advantage to be gained from the more central point—Chicago.

If a removal is demanded, and the convenience of the members is to be considered, why not seek a central point, and establish headquarters at St. Louis, Mo?

JNO. W. TRADER, M.D.

Sedalia, Mo., Jan. 26, 1891.

To the Editor.—Views of Dr. W. F. Rochelle, in No. 4, January 24, endorsed. Keep THE JOURNAL in Chicago. Nothing to be gained by the change.

T. R. LUFF, M.D.

Cincinnati, O., Jan. 27, 1891.

To the Editor.—The pride of the American physician consists in his success, his success in his advantages, and his advantages of reading THE JOURNAL at an early date will be greater if allowed to remain in Chicago than if taken to Washington. I mean the M.D.'s of the West.

J. H. LYON, M.D.

Roslyn, Washington, Jan. 22, 1891.

To the Editor.—If I remember rightly, the proposition was made, at a recent meeting of the Association, to select a permanent location for our annual meetings; I do not remember decision, but if in the affirmative, I certainly deem said place to be the proper one at which to publish THE JOURNAL, otherwise, I cannot see any benefit, pecuniary or other, to be derived by moving from Chicago. I therefore vote that no change be made.

A. PARKER CHAMPLIN, M.D.

Biloxi, Miss., Jan. 27, 1891.

To the Editor.—I prefer that THE JOURNAL should stay where it is; for it is in the midst of a thriving, stirring medical people, and it is all the time growing fuller and richer in practical ideas. To be sure we have a great body of cold science in the East, but it needs to come to life and be clothed for practical work. Now the free, warm spirit of the great West is just the thing to move upon the medical bones of the East to cause them to stand up and give an efficiency to American practice that beats the world; for with our constitutional make-up, with proper training, and with the most wide-awake journals in our hand, we ought to be the ablest bedside

practitioners beneath the sun, and if we are not we disgrace the Yankee name.
E. CHENERY, M.D.
65 Chandler st., Boston, Mass., Jan. 27, 1891.

To the Editor.—Please record my vote in favor of continuing the publication of this journal in Chicago.

J. G. BEMIS, M.D.

161 W. Madison St., Chicago, January 30, 1891.

To the Editor.—Please register my vote against moving THE JOURNAL to Washington or anywhere else.

F. E. YOUNG, M.D.

Shreveport, La., January 29, 1891.

To the Editor.—In the last issue Dr. Solis-Cohen considers the matter of the removal of THE JOURNAL. A careful perusal of his letter shows it to be a conglomerate admixture of argument and assertion, seasoned with a few facts.

Dr. Cohen in his letter starts with the question, where can THE JOURNAL be best edited and best serve the interests of the Association. Then he proceeds to find fault with the management of THE JOURNAL, stating that it has identified itself with local interests, that it has not attracted the work of the best men, that it has not been sufficiently careful in rejecting poor papers, and finally, that its abstracts and selections have not been up to standard. The editorial department he considers to have been one of the strongest features of THE JOURNAL.

With this sufficiently perspicuous statement of the shortcomings of THE JOURNAL, the writer proceeds to find a cause for it in the fact that the home of THE JOURNAL has been in Chicago. That it must be due to some evil and malign influences that surround the publication in its present location, the doctor thinks is attested by the fact that the *personnel* of the editorial staff could not be better, and therefore it must be due to local restrictions. It should be gratifying to the profession in Chicago, as misery is said to love company, to know that the same peculiar miasm is present in Philadelphia, New York, Boston and Baltimore. We cannot refrain from congratulating the profession of Washington upon their singular exemption from this kind of infection. We had supposed that there were some fairly representative journals published in this country, notably the *American Journal of the Medical Sciences*, but it is only necessary to read Dr. Cohen's letter to be convinced that its influence is purely local, and that it would have had a wide and grand success had it only been removed to Washington.

Granting, for the sake of argument, that the doctor's strictures regarding the management of THE JOURNAL are true, what guarantee have we that if it is moved, local influences or the advancement of individual interests will not dictate its conduct in its new home? Have the profession of Washington alone those self-effacing qualities that will allow them to remain invisible while they conduct THE JOURNAL into higher and ever widening plains of usefulness? What covenant will they enter into? What bond will they give that such shall come to pass?

The reasons in favor of Washington are delightfully simple. The removal would immediately relieve local influences, and this would raise the standard; this improvement would attract the best minds, and so all would go on in ever increasing grandeur. As near as we can analyze Dr. Cohen's statement, there seems to be in Washington a great, intangible, psychic entity, that has its being as an incorporeal body working in and for the good of the but not of it, for they are of the earth, and this is of the spiritual and invisible. For convenience we may name this influence the *Great Good*, just as we may call that other equally intangible thing existing in Chicago, New York, Philadelphia and Baltimore, the *Great Evil*.

In conclusion, Mr. Editor, I would like to say that I regard the removal of the Association storm-centre from Chicago to Washington as a simple change, and not in any sense as a solution of whatever real or imaginary ills may affect THE JOURNAL.

If THE JOURNAL is not up to what it could be made, let the Trustees see to it that it is improved. Nothing will be gained by a simple transfer of editing, printing, press-work or binding to either Washington, Oshkosh or Kalamazoo.

HAROLD N. MOYER, M.D.

Chicago, January 31, 1891.

To the Editor:—Permit me through the columns of your journal to ask our friend Dr. Solomon Solis-Cohen to please verify his assertion under No. 1, to point out the Vol., No. and page of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION in which said journal has debased itself either in its editorial or news columns as he alleges it to have done.

While the doctor is on the stand we would be glad to have him enlighten the thousands of readers of THE JOURNAL on his 2nd proposition and tell us in what respect Chicago debars the best scientific men in the country from sending the best productions they can produce to THE JOURNAL of the National Association, or in what respect Washington would have any greater magnetic attraction for these articles than the great metropolis of the west. Certainly Washington has never shown any great distinction in the literary field, either in the past or present; surely not in the newspaper, notwithstanding it is the Capital, on which the doctor puts so much stress in his remarks.

We will be glad to have the doctor, while he has the stand, explain to us in what respect Washington would facilitate the ejection of the worthless papers, any more than Chicago? To say that THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION has not, and does not present anything new to its readers is a severe criticism on the doctor himself, who has been a contributor to its columns in the past, saying nothing of the work of such men as Senn, Parkes, Fenger, Connor, McGraw, Van Deever, Wood, and scores of other eminent American investigators and writers who have contributed to its columns from time to time some of the ablest articles of the age.

In what respect, pray tell us, will the removal of THE JOURNAL to Washington improve its abstract column? Certainly a useless expenditure of money for its removal, together with the loss of advertising patronage by its removal would not in any manner aid in the securing of better abstracts or a higher class of reviews.

In reading No. 5, one would imagine that Washington was the only place where "well informed and thoughtful editorial comments upon questions of importance" could be manufactured; if this is true it does seem strange that Washington has never been, and is not now a medical centre in any sense of the word.

In regard to No. 1 of his second series; if the doctor had said that Washington belonged to the political parties alike, and the temptation to debase statesmanship by rings and factions for personal interests was rife in that city, he would have hit the nail on the head exactly. Surely it is a trifle hazardous to the real interests of THE JOURNAL to have it surrounded with an atmosphere that is so impregnated with political strife, and one that is so frequently disturbed by multitudes of ambitions whirlwinds that are liable to affect even a great National medical journal.

In No. 2 he refers to the treasures of the Surgeon-General's Library in the National Museum; very good; but the new library of Chicago, when completed, will excel the Surgeon-General's Library for real value as far as lightning beats a sheep; while the National Museum is not of a great deal of benefit for the production of orig-

inal thought, or investigation such as the doctor has dwelt on so much in his caustic letter.

In No. 3 may I be permitted to ask him, and that with all due respect to the medical profession in Washington, to point me out one single member of the same who has distinguished himself by his original investigation, of original subjects, and thereby produced something NEW (such as he claims should only enter the columns of THE JOURNAL) for the enlightenment and benefit of the profession?

In reply to No. 4 it is difficult to see, under all the circumstances and present evidence, how the removal of THE JOURNAL from the second LARGEST city of our country, to one scarcely ONE-FIFTH as large, would raise the editorial status of the same, or be any greater incentive to attract able papers from the best members of our profession; and hence we would be glad to have the doctor proceed to explain the philosophy of this kind of logic.

Then, in No. 5, he goes on to say that only by concentration the best work can be done, and yet in his previous breath he advocates the removal of THE JOURNAL from the great western metropolis which is the largest railroad centre in the world, to a diminutive city as compared with Chicago in any particular, with only three railroads, and then claims that that is concentration, and is conducive to medical elevation; especially when two-thirds of all the members of our Association live WEST of the Allegheny mountains, and only one-third EAST of the Appalachian range.

Now, doctor, this is a strictly business transaction, and should be regarded as such by all who are interested in the welfare of THE JOURNAL, and I will now close by asking you, if Washington is such a great centre, why business men, wholesale dealers, manufacturing establishments, railroads and commerce in general, are not centred there? If other business interests have not found that a profitable centre for them, and newspapers and magazines have not flourished there, how can you expect our National Medical Journal to fare any better?

Let us hear from you, doctor, and let us have a rational solution of this question, in a logical manner.

R. HARVEY REED, M.D.

Mansfield, O., Jan. 31, 1891.

MISCELLANY.

LIST OF PERMANENT MEMBERS.—The names of Dr. J. H. Lyon, Roslyn, Wash., and Dr. Karl von Ruck, Ashtabula, N. C., were omitted from the List of Members in our December issue.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending January 31, 1891.

Asst. Surgeon R. P. Crandall, ordered to examination preliminary to promotion.
P. A. Surgeon T. A. Berryhill, detached from the "McArthur" and wait orders to the "Marion."
Surgeon W. H. Jones, detached from the "Swatara," proceed home and grant six weeks' leave.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Four Weeks Ending January 24, 1891.

Surgeon P. H. Bailhache, granted leave of absence for seven days, January 12, 1891.
Surgeon George Purviance, to proceed to Pittsburgh and Erie, Pa., Cleveland and Toledo, O., Detroit, Mich., and Buffalo, N. Y., as Inspector. December 29, 1890.
P. A. Surgeon F. M. Carrington, granted leave of absence for seven days, January 16, 1891.
Asst. Surgeon H. D. Geddings, to report in person to the Supervising Surgeon-General, January 16, 1891. Detailed for special duty, post of Georgetown, D. C., January 16, 1891.
Asst. Surgeon W. G. Stimpson, to proceed to New Orleans, La., for temporary duty. January 6, 1891.

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CHICAGO, FEBRUARY 14, 1891.

No 7.

ORIGINAL ARTICLES.

ANEURISMAL TUMOR OF THE RIGHT
ALVEOLAR PROCESS AND VAULT
OF THE MOUTH TREATED BY
INJECTION.

BY JOHN S. MARSHALL, M.D.,

PROFESSOR OF ORAL SURGERY, UNIVERSITY DENTAL COLLEGE;
VISITING ORAL SURGEON TO ST. LUKE'S FREE HOSPITAL
AND MERCY HOSPITAL, CHICAGO, ILL.

Mr. C. B. H., of Chicago, American, aged 26 years, occupation traveling salesman, was referred to me December 26, 1888, for counsel and treatment by Dr. M. Stout, of Chicago, with the following history: Some eighteen or twenty months previous to this examination the gentleman had submitted to the extraction of all his superior teeth, except the central incisors. The operation was performed under nitrous oxide gas; the mouth was badly bruised and lacerated on account of the difficulty in extracting the teeth. A few weeks afterwards he noticed a swelling upon the inner side of the right alveolar ridge, which continued to enlarge as the months went by, and prevented the making of the artificial denture, which he was anxious to have placed in his mouth. There was no pain or uncomfortable feeling about the tumor, except when engaged in vigorous exercise; at such times pulsation in the part would become very marked and disagreeable.

According to his own statement he had "consulted several dentists (?) in relation to the character of the swelling; some did not know what it was; one said it was an accumulation of pus, another that it was a 'watery tumor,' and a third that it was a 'wind,' and asked the privilege of letting it out." This very kind offer, however, was declined, much to the permanent benefit and longevity of our patient.

Examination of the mouth revealed the superior teeth all gone except the central incisors, and a pulsating tumor about one and one half inches in length, by one inch in width, egg-shaped in form, with the small end pointing forwards, and occupying the right side of the vault of the mouth, from the outer wall of the alveolar process, to the median line, and from the tuberosity

of the maxilla forward to a line drawn through the cuspid region.

In character it was soft, fluctuating, compressible and with very marked pulsation. In color it was slightly deeper in tint than the surrounding mucous membrane. Upon puncturing it with an exploring needle, a jet of arterial blood followed its withdrawal, and continued to spurt for about half a minute, when the hemorrhage ceased.

The diagnosis was aneurismal tumor of the posterior palatine artery, with possible anastomosis with some branch of the superior maxillary artery, the result of injury in the extraction of the teeth. An operation was advised, and the gentleman agreed to report in about two months. Cast No. 1 is a copy of the upper jaw at this



CAST 1.

period. Business engagements prevented his keeping this appointment, and when he next called to arrange for the operation, I was out of town on my summer vacation. He was also on vacation, and could not wait my return, and therefore sought other advice.

October 10, 1889, I saw him again, at which time he gave me the following additional history: That in July he had been operated upon for the removal of the tumor and had nearly died under the operation, from hemorrhage, and was afterwards confined to his bed for two months, with blood-poisoning.

The cast which I now show you, No. 2, is a copy of his upper jaw taken on December 17, 1889, a few days before I operated upon him.

You will see by this that there was no improvement in the condition as described in the examination made a year previously, but that the tumor was larger.



CAST 2.

The surgical treatment of aneurisms is by ligating the artery near the cardiac or distal extremity of the sac, or both; by compression either instrumental or digital; by the introduction of foreign substances into the sac, like catgut, horse hair or fine iron or silver wire; by manipulation; by acupuncture; by galvanopuncture; by the injection of coagulating fluids, and in the case of small anastomosing or cirroid aneurisms, by dissection.

The particular method adopted being controlled by the character and location of the aneurisms, the chances of danger to life, the possibilities of a cure, and the individual preferences of the operator. In all such cases, as are susceptible of ligation, this is by far the most satisfactory surgical procedure. But in those which from their location cannot be reached by this method some one of the other means may be employed.

In the case under consideration treatment by ligation, compression, manipulation, acupuncture or dissection was out of the question; the means at our command were therefore limited to three methods: the introduction of foreign substances, like wire, etc., galvanopuncture, and injection.

Treatment by the introduction of foreign substances, either animal or metallic, seemed slow and unsatisfactory, and gave little hope of success, for I had been unable to find a single case on record of a cure by this means, while the dangers from embolism were great.

Galvano-puncture was considered too tedious an operation, from the fact that several would most likely be required to effect a cure, while the dangers from embolism and from hæmorrhage as a result of sloughing at the points of puncture, made it seem extremely hazardous. I therefore decided to treat the case by injection, though this method is by no means free from the dangers already enumerated. The injection method in

aneurisms of large arteries is generally considered positively unsafe; and in those occurring in terminal branches of arteries, it has not met with much favor by the profession, chiefly for the reason that several fatal results from embolism were recorded soon after its introduction, and thus deterred many from giving it a trial in those cases which might be considered favorable.

The danger of this method in aneurisms connected with small arteries, it seems to me are not in the method itself, but in the kind, and strength of the coagulating fluids used.

The agents which have been suggested are numerous, among which are acetate of lead, acetic acid, iodine, ergotine, and the perchloride of iron. The perchloride has generally been given the preference, used in small quantities and weak solutions of 1 to 2 per cent.

The injection of solutions in the above quantity and strength, produce very slow coagulation, and when the clot is formed, it is soft and friable, as a consequence it is easily broken up, and floated away, giving rise to embolism in remote parts of the circulatory system, with all its accompanying dangers. The dangers in acupuncture, galvanopuncture, and the introduction of foreign substances into the sac, are for the same reasons equally great.

The perchloride of iron is a vigorous coagulant, and quite escharotic and antiseptic when used in full strength. A 1 or 2 per cent. solution is very mild in its styptic and coagulant qualities; is not escharotic, and has no value as an antiseptic.

What is needed in the treatment of this class of cases, is to produce a firm clot, instantaneously if possible, and to maintain it in an aseptic condition, without the dangers of sloughing or hæmorrhage.

In the perchloride solution of proper strength it would seem that we had all these requirements.

By the production of instantaneous and complete coagulation of the blood in aneurisms of this class and nevi, the dangers from embolism in remote parts of the body, would seem to be entirely overcome, and thus one great objection to this method removed; at least this was my thought upon the matter, and I determined to try it in this case, in preference to the other methods which might have been chosen.

In order to produce a complete and firm coagulum, instantaneously, it would be necessary to use a solution of much greater strength, than had been previously recommended.

From the size of the tumor, I concluded that in all probability it contained from one to one and a half ounces of blood, and that the introduction of five minims of the following solution, perchloride of iron one part, water four parts, would not be sufficiently escharotic to do any mischief, when diluted with this quantity of blood.

On December 22, 1889, I injected into the tumor five minims of the above solution, which produced instantaneous coagulation, making the tumor feel as firm as a fibroma; considerable pain followed the injection, but this gradually subsided after a few minutes, but he complained for some hours of a strange fullness of the right side of the head. On withdrawing the hypodermic needle, a little oozing occurred which immediately discolored the mucous membrane for a little distance around the puncture made by the needle. No other unpleasant symptoms followed.

December 28, the mucous membrane, at the point punctured by the needle, sloughed, leaving an opening into the sac, about the size of a silver half dime, exposing the hard clot. There was not the slightest hæmorrhage, but considerable anxiety was felt, for fear of such an occurrence.

Tiersch's antiseptic solution was constantly used as a mouth wash during the whole progress of the case, and after the slough occurred, the sac was syringed with the same solution at short intervals, day and night.

December 31, the clot was broken up and removed, when it was found that the aneurism also occupied the antrum of highmore, and had produced absorption of the palatine process, of the superior maxillary bone, and the nasal wall of the antrum, leaving a large opening into the nasal fossa. The case progressed without a single drawback from this time onward. The opening into the antrum and floor of the nasal fossa, finally closed. There has been no recurrence, and the patient considers himself perfectly well.



CAST 3.

Cast No. 3, shows his present condition.

Remarks.—The sloughing of the mucous membrane at the point of puncture, proves that the strength of the solution was too great for absolute safety, and should I be called upon to treat another case of this class, I should not feel warranted in using a solution stronger than one in six or eight parts of water. This, I think, would produce the desired results, without the dangers of causing a slough, and possible hæmorrhage.

No. 9 Jackson St., Corner Michigan Boulevard.

COFFEE, ITS USE AND ABUSE.

Read at the Louisiana Medical Convention, St. Louis, Mo., Sept. 1, 1890.

BY I. N. LOVE, M.D.,

OF ST. LOUIS.

PRESIDENT AMERICAN MEDICAL EDITORS' ASSOCIATION 1890. PRESIDENT PEDIATRIC SECTION OF AMERICAN MEDICAL ASSOCIATION 1890. PRESIDENT MISSISSIPPI VALLEY MEDICAL ASSOCIATION 1889. SECRETARY PEDIATRIC SECTION NINTH INTERNATIONAL MEDICAL CONGRESS PROFESSOR DISEASES OF CHILDREN, CLINICAL MEDICINE AND HYGIENE MARION SIMS COLLEGE OF MEDICINE, ST. LOUIS. CONSULTING PHYSICIAN CITY HOSPITAL, ST. LOUIS. EDITOR MEDICAL MIRROR ST. LOUIS.

I shall not attempt to present a history of the coffee plant, but rather give a few of the virtues it possesses, and draw attention to the fact that the commonplace is often overlooked in our desire to discover that which is new, striking and sensational. I recall a remark that I heard made a year or two ago by a very worthy but somewhat censorious member of our profession, to the effect that he did not propose to attempt to address the profession unless he had something absolutely original to offer. In this connection, I venture this thought: that which is good and true will bear repetition, and it is rarely original.

In Southern Abyssinia the coffee plant grows wild in profusion, and has been in use from very ancient times. The name is probably taken from Koffa, the name of a district south of Abyssinia. The coffee-producing belt of the world lies between latitudes 25 north and 30 south. The coffee plant does not thrive where the temperature is below 55°, hence the cultivation is chiefly in the tropics, the principal countries being Brazil, Java, Ceylon, Abyssinia, West Indies, Central America, Peru, Bolivia, etc. It would be interesting to present a succinct history of the plant and the gradual development of its virtues during ages past, but that is not the purpose of this short paper. The fact that there is imported annually into the United States nearly 800,000,000 lbs. of coffee, indicates its importance as an article of diet. It is an odd and interesting fact that the active principle of all the domestic beverages of the world is practically the same, viz.: caffeine in coffee, theine in tea, theobroma in cocoa.

The best coffee of commerce is Mocha, the next in order being Java. A mixture of equal parts of the two is really the best and most agreeable in flavor. The coffee, in order to be in form for use, must be roasted, and much depends upon its treatment. In order to secure an infusion of roasted coffee in its perfection, it should be boiled in a closed vessel carefully, so as not to be overdone, only the amount necessary to be immediately used; by this means the rich aroma of the coffee, which gives it its most delicious flavor, is preserved.

I venture the opinion, that there is no beverage on the earth to-day which, used in moderation, expresses more comfort, contentment and calmness to the cerebral centres, than coffee; but in

excess, it is undoubtedly most dangerous. I doubt if the victims of alcoholic excess are as numerous as those who over-indulge in coffee. Alcohol has two advantages in that it is a food and its excessive use is disgraceful. The infusion of coffee in proper quantities aids digestion, and is a safe cerebro-spinal stimulant which is not followed by perceptible reaction. Liebig drew attention first to the fact that this beverage contains the elements which stimulate the flow of bile. It is a decided laxative, a pronounced diuretic. The fact that the coffee belt of the world is also the "bilious belt" and the malarial belt, as well as the field where noxious germs and suppurative processes do most abound, is evidence of the fitness of things. No one better than the denizens of the hot regions of the world, know the value of coffee to open up the secretions which have been checked by excessive heat or the malarial influence. They know well, and have known for centuries, that which has recently been receiving much attention in the medical world, particularly in Germany, viz.: the antiseptic properties of coffee.

Appropos to this point, Carl Luderitz, in the *Zeitschrift für Hygiene*, has recently presented an interesting report concerning the influence of infusions of coffee on microorganisms, of which the *New York Medical Journal* of May 3, 1890, presents a brief epitome as follows:

Luderitz details a careful series of experiments in which he determined the influence of coffee infusions of different strength (varying from 10 to 30 per cent.) upon the growth of various forms of pathogenic and non pathogenic microorganisms. The coffee used in these experiments was roasted Java, and the infusion was made by adding from ten to thirty parts of coffee by weight to seventy or ninety parts of boiling hot water. The coffee, freshly roasted and ground fine, was covered with boiling water, and the infusion thus prepared was placed in a closed flask in a water-bath for about ten minutes, and was then filtered through a sterilized filter. This infusion was used in part for making gelatin and in part directly. Where nutrient gelatin was made with this as a menstruum, it was inoculated with various forms of fungi and other microorganisms, to determine the possibility of their growth in such a medium. In other cases the organisms were added directly to the infusion of varying strength, and after different periods of time inoculations were made from the infusions into other nutrient media. Luderitz found that the forms of fungi experimented with showed more or less growth in the coffee gelatin, but the abundance of growth was in many cases distinctly less than in other media. The other microorganisms he used for his experiments were the staphylococcus pyogenes aureus, the streptococcus erysipelatosus, the typhoid bacillus, the spirillum of cholera Asiatica, the bacillus anthracis, the bacillus prodigiosus and the proteus vulgaris. All these forms of microorganisms were greatly influenced in their life and growth by exposure to the infusions of coffee, but some were far more susceptible than others. The bacillus prodigiosus was totally destroyed only after exposure in a 10 per cent. infusion for four days, or in a 30 per cent. infusion for one day. The typhoid bacillus was completely destroyed after exposure in a 5 per cent. infusion for three days, in a 10 per cent. infusion for from one to three days, or in a 30 per cent. infusion for one or two days. The proteus vulgaris was killed after an exposure for four days in a 10 per cent.

infusion. The staphylococcus pyogenes aureus was destroyed only after an exposure for six days in a 10 per cent. infusion, and for three days in a 30 per cent. infusion. The streptococcus erysipelatosus was destroyed after an exposure of one day in a 10 per cent. infusion. The bacillus of Asiatic cholera was destroyed in a 1 per cent. infusion after seven hours' exposure, in a 5 per cent. infusion after four hours, and in a 30 per cent. infusion after two hours. The bacillus anthracis was destroyed in a 10 per cent. infusion after three hours, and in a 30 per cent. infusion after two hours. The spores of the anthrax bacillus were only destroyed, for the most part, after three weeks' exposure in 20 and 30 per cent. infusions.

Aside from these experiments, others were made with decomposing meat bouillon, which was swarming with various forms of microorganisms. The results obtained from these showed that while the viability of the spores contained in the fluid was greatly diminished after a short exposure, it was not completely destroyed until after an exposure of many days. The cholera spirillum was by far the most susceptible of the organisms used in the experiments, and next to it stood the anthrax bacillus without spores.

At this moment a recollection of the fact comes to my mind that Dr. C. H. Hughes, of St. Louis, not less than fifteen years ago, drew attention to the antiseptic properties of coffee. Since, however, the grand moguls of Germania have taken snuff on the coffee question, undoubtedly the Germaniacs of science on this side of the Atlantic will all sneeze simultaneously.

The fact that coffee blunts sensation and increases secretion, would suggest that we educate the laity in the direction of at once giving the victims of accident a good cup of hot coffee, rather than the usually over-stiff whisky toddy, which in many cases, given in excess as it is, places the individual not only in an unfavorable condition physically, but also renders him liable to the charge later, from those not familiar with the facts, of having been injured on account of drunkenness. I recall the case of a young lady horseback riding in the suburbs of St. Louis some years ago, thrown from her horse, leg fractured, taken in by good Samaritans close at hand. On being summoned, I at once responded, and recognized the victim as being one of the "swellest set" of St. Louis' best society. I placed the patient in my carriage and removed her to her home. She was dead drunk, and before we reached her home, there was not a space three inches square in the carriage which was not covered with that which had, prior to the accident, been part of the contents of her stomach. Those unfamiliar with the fact of her having been filled to the brim with whisky by the good Samaritans who took her in, might have seriously reflected upon her character. A good cup of black coffee would have done her better service and risked her character less. So to the public we would say, give to those who have been injured a good cup of coffee in the name of humanity, but no whisky.

The custom which prevails in New Orleans, and generally through the South, of taking a cup of strong black coffee in the early morning, is an

intelligent one. The people of those malarious regions have long since demonstrated the fact that the custom referred to is of great advantage as a prophylactic. The individual experience of the writer for five or six years past, is strongly in favor of the taking of a liberal cup of black coffee without cream or sugar, sandwiched in between two glasses of hot water, a few minutes before rising every morning, at least one hour before breakfast. The various secretions are stimulated; the nervous force is aroused; an hour later, a hearty meal is enjoyed and the day's labor is commenced favorably, no matter how the duties of the day and night preceding may have drawn upon the physique. Another cup of coffee at four in the afternoon is sufficient to keep the energies unflagged for many hours thereafter. Taken in this manner, the full effect is secured; the stimulant devotes itself strictly to business, none of it is lost, and if the proper diet be taken at the proper times between (and the ideal diet for those who make large drafts upon their nervous systems and expect to have them honored, is hot milk) if the above regimen be followed and accompanied by at least eight hours sleep out of every twenty-four hours, the capacity for work is almost unlimited. How many of our patients who are the victims of disease, are ever consulted as to whether they have been accustomed to the habitual use of coffee, or not? Take, for instance, typhoid fever; a long seige of suffering; a racked and wrecked nervous system; the chances largely in favor of the patient having been an habitual drinker of coffee, but whether so or not, the coffee is usually not given, though strongly indicated, for the reason that it sustains and supports weary, worn nerves, aids digestion, keeps the alimentary canal, which is swarming with germs and putrefactive material, in a more or less antiseptic condition (it has previously been shown that coffee is peculiarly destructive to the typhoid bacillus), helps to gently open the sewers of the system, being as it is a diuretic, a stimulator of the bile flow and other secretions, allays the sense of fatigue and lessens tissue waste, braces up the heart's action and raises arterial tension. We all know that to prevent a chill, nothing is superior to a cup of strong black coffee. As an antagonist to opium narcosis, strong black coffee stands preëminent. This brief and disjointed paper would be unfinished unless a reference were made to the injury likely to follow the excessive use of coffee. In excess, it disorders digestion, removes the desire for food, creates an indisposition to sleep, excites headache, vertigo, mental confusion and disturbed heart action.

In this connection I recall the case of Mrs. S., whom I was called to see in consultation some miles from St. Louis about three years ago. A mother of five children all born within eight years, one or more of them sick half the time

from the time of their birth. Mother conscientious and ever alert to her duty, suddenly taken down with heart trouble and such nervous symptoms as to apparently imperil life. Upon examination, I discovered an almost bloodless woman with a heart beating irregularly but so fast as to be almost beyond counting. A restless, hunted down expression of face and physique; no fever; an utter inability to sleep; no appetite for weeks past. The history which I soon elicited demonstrated the fact, which had been overlooked by her attendant, but which I suspected from seeing a coffee pot upon the table by the bedside, viz., that the mother in order to bear up under the burdens placed upon her, had been for six months absolutely living upon black coffee. The desire for food or ability to digest it had long since gone. The blood had become impoverished from lack of sustenance. Like the indiscreet owner of the thoroughbred roadster, she had been constantly feeding with the whip instead of oats. Her cerebro-spinal centres, the acceleratory nerves of her heart, would have soon been whipped to the point of exhaustion. Opiates and digitalis, whisky and pre-digested milk, good sleep, a check rein upon her circulatory organ, oats instead of the whip, in the form of nutrition easy to assimilate, gradually brought the patient around to a condition of health. It may not be uninteresting to state that this excellent woman, although a coffee drunkard, was a member of the local Temperance Union.

After years of extended observation and pronounced personal experience I feel justified in announcing:

1. The world has in the infusion of coffee, one of its most valuable beverages.
2. As a prompt diffusible stimulant either by the stomach or by injection into the rectum, it is in all cases of shock, preferable to alcohol.
3. It is antagonistic to malaria and specially destructive to the typhoid bacillus and cholera germ, and for this reason it is an admirable remedial agent in these conditions, both as a direct stimulant, an antiseptic and an encourager of elimination.
4. One of its chief advantages in health and disease is in the fact that it aids in the securing of that psychological satisfaction which is conducive to hope, comfort, good digestion, great power of resistance and rapid recuperation.
5. In season, it supports, tides over dangers, helps the appropriative powers of the system, whips up the flagging energies, enhances the endurance, but is in no sense a food, and for these reasons and many others, it should be used temperately, as should all of nature's benign gifts.
6. In excess, it is even more dangerous than alcohol, for it is not, like the latter, a nutrient, nor is the effect of its excessive use so apparent or unrespectable.

A STUDY OF STERILITY, ITS CAUSES AND TREATMENT.

Being an Essay which received the First Prize of the Alumni Association of the College of Physicians and Surgeons, Baltimore.

BY THOS. W. KAY, M.D.,
OF SCRANTON, PA.

(Continued from page 184.)

CAUSES.

1. *Non-production.*—Non-production of healthy ova and spermatozoa may be caused by (a) absence, non-development or malposition of the genital glands; (b) inflammatory troubles producing atrophy or destruction of those organs; (c) tumors or new growths affecting the nutrition of, or directly invading, the gland substance; and (d) all influences which affect the glands indirectly by altering the general condition of the body.

In all barren marriages where symptoms of uterine disease are not well pronounced, we should first make a microscopical examination of the spermatic fluid. This can be easily obtained by withdrawal of the organ as orgasm approaches, or by collecting the fluid, by means of a small syringe, from the vagina after the act has been completed. The best method, however, is the use of a condom during coitus.

Male.—The quantity of the seminal fluid depends on the size of the testes and the habits and physical condition of the male. Sims places the average quantity at about 2 drachms. It is not the quantity, however, but the quality, that concerns the physician, for though there may be a normal quantity of fluid discharged, the spermatozoa may be entirely absent—azoospermia.

Should there be no discharge—aspermia—it is useless to look for spermatozoa, but they may exist in large quantities and in a perfectly healthy condition when only a small quantity of fluid is discharged. Either of the above conditions may be congenital or acquired. The congenital variety, as a rule, is permanent, but the acquired form is either permanent or temporary.

(a.) In the congenital variety there is an absence or imperfect development of the testes, which prevents the production of the spermatic fluid. The absence of one testis—monorchism—is of little moment, but the absence of both testes from the scrotum—cryptorchidism—generally indicates sterility. This, though, is not always the case, for one or both testes may exist in the abdominal cavity and be in a healthy condition.

(b.) The most common cause of the acquired form is orchitis, due to external injury, mumps, gonorrhœa, syphilis, or other troubles in which an atrophy of the glandular elements is caused by the inflammatory process.

(c.) Hernia, hydrocele, varicocele, and all benign tumors disturb the nutrition of the testes by

pressure or by dragging on the blood-vessels, and thus produce atrophy. Cystic diseases, tubercle and malignant tumors destroy the testis by a direct invasion of its glandular structure.

(d.) All fevers and inflammatory or wasting diseases affect the testis temporarily by impairing the general health. The sterility due to excessive venery, masturbation, and affections of the nervous system, is usually temporary, but may become permanent through organic changes taking place in the testes. Heredity, consanguinity, and many other agencies affect the reproductive organs of the male, but in exactly the same way in which they affect those of the female. At what time senile sterility is established in the male is not definitely known, but as his development is less rapid than that of the female, so is his loss of power postponed till later in life. In temperate climates the reproductive power may be established as early as the 14th year and be maintained, in persons of robust constitutions, as late as the 70th, 80th and 90th year.

Female.—(a.) The ovaries may be, one or both, congenitally absent or imperfectly developed. The absence of one is of little importance, for the other, if healthy, is sufficient to furnish ova for impregnation.

Congenital absence or defect of both ovaries is generally accompanied by other abnormal conditions of both the internal and external organs of generation. Many interesting cases of this kind are found in all works on gynecology. Pro-lapse of the ovaries may affect their nutrition and set up inflammatory changes which result in atrophy and destruction of the Graafian follicles.

(b.) Aristotle seems to have been the first author to point out the fact that early marriages are a frequent cause of sterility, and the statistics collected by Duncan and Kisch show conclusively that not only is sterility more frequent, but the birth of the first child is postponed longer in those marriages where the woman is 15 to 19 years of age than where she is 20 to 24 years of age. This is due to inflammatory changes caused by injury during coitus or at childbirth, to imperfectly developed genital organs. The researches of Slavjansky have shown that inflammation, with subsequent atrophy of the Graafian follicles, may occur in rickets, scrofula, tuberculosis, pneumonia, typhoid fever, and all inflammatory and wasting diseases. In both acute and chronic ovaritis there may be an absorption of the follicular contents, followed by a collapse and adhesion of the follicular walls, which results in atrophy of the ovaries. It is in a different way that pelvic peritonitis acts. Here, the inflammatory products thrown out contract, and both dislocate and compress the ovaries so as to disturb their blood supply. Syphilis causes atrophy, directly, by affecting the ovaries, and indirectly, by setting up peritoneal inflammation.

(c.) All new growths of the ovaries—cystic (follicular, multilocular, dermoid, papillary and myxo-polyoid), and solid (papilloma, fibroma, fibromyoma, sarcoma, carcinoma and enchondroma) induce sterility by destroying the structure of or producing atrophy of the ovaries. As long, however, as a healthy portion of the ovary remains, conception is possible. Schröder took advantage of this in operating, and would always leave a piece of healthy ovary when it was possible. The possibility of spayed sows getting with pig has long been known to stock-raisers, and I have seen several examples of it in my own neighborhood. Schatz reported a case where a young woman of 20, on whom double ovariectomy had been performed, conceived. In all of these cases a part of the ovary must have been left, or it may be that a supernumerary or accessory ovary existed, as in cases reported by Biegel, Klebs, Ols-hausen, Winckel and others. In the female, as in the male, varicocele may exist, about the organs of Rosenmüller, and produce atrophic changes by disturbing the circulation of the ovaries, but this affection is exceedingly rare.

(d.) In females suffering from diabetes, anæmia, chlorosis, and chronic affections of the nervous system, conception is rare, because of lack of sufficient energy to produce healthy ova. It is probably in the same way that the excessive or long continued use of alcoholic stimulants, opiates and other drugs prevent conception. The causative influence of obesity in producing sterility is very doubtful. It does not prevent the production of healthy ova, but indicates a lack of vigor and a sluggish condition of the general system unfavorable to ovulation. The ova are discharged periodically about once a month, and it is about that time that impregnation is most apt to occur. Of 248 cases, in which the time of copulation was definitely known, Hasler found that conception took place in 86 per cent. during the first ten days after the cessation of the menstrual flow. Capellman advises sexual abstinence for fourteen days after the cessation of, and three or four days before the appearance of the menstrual flow, if one desires to avoid conception. The Jews, the most prolific of all people, allow five days for the menstrual flow and to this add seven days, making in all twelve days, from the first appearance of the menses, during which coitus is forbidden.

The season of the year also affects conception, and we find it occurring much more readily in spring and summer than in autumn and winter. Haycroft, who has carefully studied the subject, finds that in Scotland the number of women who conceive increases with the rise of temperature.

The quantity and quality of the food materially affects conception, it being a well known fact that more children are born during years of plenty than during famines. Women in moderate circumstances, however, are more prolific than those

who live in luxury and idleness. Hensen points out the fact that melons and cucumbers are more productive when raised in the shade and furnished with moisture than when exposed to the sun and a dry heat, and argues that women are affected, to a certain extent, by the same causes.

We saw that this was so when speaking of food and temperatures, and it is even more noticeable in the lower animals than it is in man. Pigeons are much more prolific when well housed and liberally fed than when they are allowed to look out for themselves. Indoor confinement or change of long established habits will tend to cause sterility in both the lower animals and in man. All showmen know that wild animals are remarkably unproductive when deprived of their accustomed freedom.

In France it has been shown that of eggs laid by uncooped hens only 20 per cent. are sterile, but this figure rises to 60 per cent. when they are closely confined. Darwin calls attention to the fact that mares rarely get in foal just after being taken from the stable and turned to pasture.

In what way consanguinity acts in causing sterility is not known, but it is a common cause in both the lower animals and man. Interbreeding of stock will cause the most improved breeds to degenerate in a very short time, and in families we see the same result, the progeny becoming sterile, deformed or mentally deficient. Mitchell points out the fact that this can be partly averted by good food and hygienic surroundings.

Galton, who has studied the question of heredity in all of its bearings, more thoroughly than any one else, finds that it is a potent factor in producing sterility. In England, where only-child sterility is as frequent as one in every third marriage, Susell finds heredity one of its chief causes. The absence of menstruation has been given by some authors as a cause of sterility, but this cannot be, for it only indicates a condition of the ovaries unfavorable for ovulation, and should be considered as a symptom. When it exists up to the 20th year, it is usually a sign of non-development or atrophy of some of the internal organs of generation. From the forty-sixth to the fiftieth year it usually becomes permanently established and indicates the presence of senile sterility. The menses may also be arrested by catching cold, by fright, or by any great physical or mental excitement, and generally indicates a condition unfavorable for conception.

2. *Non-union.*—Non union of healthy ova and spermatozoa may be caused by (a) absence, stenosis, atresia or dilatation of any part of the course traversed by the human germs; (b) by diseased conditions of the passages which tend to impair the vitality of either ova or spermatozoa; (c) by artificial means employed to prevent conception; (d) by all influences tending to hasten, prevent or retard orgasm.

Male.—(a.) The possible existence of the ovaries, with the absence or imperfect development of one or all of the remaining internal organs of generation—those developed from the Wolffian bodies and the conduits of Müller—is well known, and it is but reasonable to suppose that the corresponding portions of the male genital tract—the ducts from the testes to the urethra—can also be absent or undeveloped while the testes are present. Such a condition must prevent the entrance of semen into the urethra.

Dunley found that in old age an obliteration of the ducts took place, probably before the testes ceased to generate spermatozoa. Pressure from tumors of the cord may also cause occlusion of the ducts. Epispadias, hypospadias and urethral fistula, unless situated near the glans penis, will allow the escape of the semen before it enters the vagina, and in those cases where it is deposited in the vagina it fails to be ejaculated against the cervix.

Stricture of the urethra is a very common cause of sterility. When narrow and situated in the anterior portion of the urethra, it obstructs the canal during erection so as to dam up the semen till the organ becomes flaccid, when it gradually oozes out. Should the stricture be situated far back, a regurgitation of the fluid may take place into the bladder, and be passed only as the urine is voided. When a slight stricture is present, impregnation may be affected by a change in the normal spiral direction of the urethra. This, as a rule, twists from right to left, as can be seen when passing urine from a healthy urethra, and it can also be demonstrated by passing a large olivary bougie well back into the canal and withdrawing it by a small thread attached to its end. In connection with this it is interesting to note what Courty says, in speaking of the "arbor vite" of the cervical canal. "The posterior tree," says he, "deviates to the left in proportion as it approaches the superior orifice. The anterior tree is, on the contrary, directed towards the right." It will be observed, then, that when the meatus urinarius is applied to the external os uteri, the spiral is continuous to the cavity of the uterus. Phimosis and stenosis of the meatus urinarius have the same effect as stricture, and a too large meatus acts in the same way as hypospadias.

(b.) Levy has shown that catarrhal secretions, when containing many pus corpuscles and much epithelial detritus, destroy the vitality of the spermatozoa in a very short time, but it is not probable that urethritis, simple or specific, will directly cause sterility in many cases, as it is such a short time in contact with the spermatic fluid. I recall a case in my own practice in which impregnation and gonorrhoeal infection, in all probability, took place from the same individual at the same time.

(c.) Little need be said about the artificial means

used by the male to prevent conception. The practice of "withdrawing" as orgasm approaches and the use of the condom are only too well known to all classes, both married and single.

In some parts of France and Syria, the prostitutes adopt a practice not generally known in America. It consists in tightly compressing the male urethra in front of the prostate, as orgasm approaches, so as to cause a regurgitation of semen into the bladder.

(d.) Many men of excitable dispositions, when first beginning to gratify the sexual appetite, are unable to control themselves and have a premature emission, sometimes even before entrance into the vagina has been gained. One individual under my care, who has since married and begat children, would have a seminal discharge as soon as his limbs came in contact with those of a female, even when sitting at meals.

Different neuroses of the genital tract may retard or prevent orgasm, and in one case which came to my notice I had reason to believe that spasmodic stricture of the urethra caused seminal regurgitation into the bladder. These neuroses are found in persons who have been addicted to excessive venery or to masturbation, and in those who have suffered from frequent or long-continued nocturnal emissions. In all debilitated individuals, from any cause whatever, or in those suffering from affections of the nervous system, the reflex centres governing the ejaculatory act may lose their excitability, so that, though erection takes place, there will be no discharge of semen. It is a not uncommon complaint of sterile women that they feel no discharge from the man during coitus. Non-erection prevents orgasm, and this may be caused by physical or mental affections. In some cases a too rapid flow of blood through the dorsal veins of the penis may bring this about.

Female.—(a.) Congenital defects, preventing the union of the ova and spermatozoa, may be found in any part of the female genital tract. Kisch calls attention to an abnormal thickness of the tunica albuginea as an obstacle to the escape of the ova, and Schenk has seen the cellular covering of the zona pellucida, as it escapes from the Graafian follicle, act as an obstacle to the entrance of the spermatozoa, in rabbits.

Should the outer portions of the conduits of Müller, one or both, fail to develop, or their blind extremities neglect to open, there may be an entire absence or a rudimentary development of either or both of the tubes, or it may result in a closed termination where the fimbriated extremities should be. If an imperfect fusion of the lower portion of the conduits of Müller take place, it will result in some abnormal shape in the body of the uterus, but this does not prevent conception, nor does the imperfect condition arising from lack of development of one of the conduits of Müller.

The septum dividing the conduits may persist in all or any part of its course, and cause the formation of a double uterus or double vaginae, but this is an impediment to impregnation only when it prevents copulation—conception being possible in either or both sides of the uterus. Should the conduits fail to develop or should they be arrested in their growth, the result will be an absence or malformation of both, either, or any part of the uterus or vagina, and any of these conditions may exist in females who are apparently well developed.

Examples of entire absence of the uterus are quite numerous, its diagnosis being easily made, on the living individual, by introducing the finger of one hand into the rectum and a probe, catheter, or finger of the other hand into the bladder.

Total or partial absence of the vagina may exist when the uterus is present or when it is absent, and this abnormal condition can be diagnosed in the same way as the abnormal conditions of the uterus. Should only the lower portion of the vagina be absent, it does not necessarily cause sterility, for the genital canal may open into the urinary or intestinal tracts, and there are cases of this kind on record where impregnation took place through the anus or the urethra. If, during fetal development, the free edges of the hymen unite so as to entirely close the opening to the vagina, sterility must result. In all other anomalies of the hymen impregnation is possible, though the penis may not gain access to the vagina, and many cases of impregnation without penetration have been recorded, the spermatozoa having found their way through the opening into the cervix uteri. Congenital malformations of the vulva are also found occasionally, in which coitus is impossible. It may be abnormally small, or there may be adhesion of either the labiæ majore or the nymphæ. This union may be simply between the epithelial surfaces and easily overcome by traction, or it may be firm and require operative interference.

A small vagina, as a rule, is not a serious drawback to conception, and Kisch calls attention to the fact that small women with large husbands—presumably where the fit is tight—are more prolific than where the two are of the same size, or the woman is larger than the man. The above statement is borne out by my own observations. Congenital atresia of the cervical canal may exist in any part or all of its course. If situated only at the external os, as is most frequently the case, it usually consists of a continuation of the mucous membrane across that opening, and is easily remedied, but when more extensive it is difficult to treat. It usually attracts attention about puberty by the formation of a hematometra. Acquired atresia of the cervical canal is quite a common occurrence in women after they have passed the menopause, but here it is usually at the in-

ternal os, and is due to adhesion following degenerative changes.

Stenosis of the cervical canal may occur at either the external or internal os, and can be determined by the failure, in any uterus of normal position, to pass a good-sized uterine sound with ease. Olshausen calls attention to the fact that in women who bear their first child long after marriage a second birth follows close on the first, and he accounts for this by the stenosed os becoming larger after the child has been born. A lady of my acquaintance was barren for six years after her marriage, since which time she has given birth six times in nine years. Stenosis of the cervix is a common cause of sterility not only in man but also in the lower animals. The Arabs use the hand and various hard instruments for dilating the cervical canal in mares that are unfruitful, and the Tyrolese incise the cervix of barren cows, in both cases, it is said, with successful results. The intra-vaginal portion of the cervix may be abnormally short or entirely absent, and in either case may cause sterility by preventing the application of the glans penis to the cervix uteri. Hypertrophy of the vaginal portion, if general, results in an elongation of the cervix, which is so great in some cases as to prevent coitus. This great length is exceedingly rare, but moderate elongation is quite common, and causes the cervix to be displaced as the seminal discharge takes place. If the hypertrophy is confined to one side it results in flexion, so that the os is tilted towards the vaginal wall during coitus. The conical and the nozzle-shaped cervixes indicate an abnormal condition of the muscular structures, and probably prevent an active participation of that part of the uterus in the act of coition.

Where the cervix is torn or everted, sterility may be caused by the granulations closing the canal so as to prevent the passage of the spermatozoa, by the cervix allowing the escape of the semen after it has entered the canal, or by a catarrhal condition of the lining membrane causing a change in the normal secretion which is unfavorable to the life of the spermatozoa. A lacerated perineum also favors the escape of the semen and promotes secondary changes in the internal genital organs unfavorable for reproduction.

All uterine displacements, whether from a relaxed condition of the ligaments, from increased weight or external pressure, or from the contraction of inflammatory deposits, tend to prevent the entrance of semen to the ova.

In inversion of the uterus conception is necessarily impossible, and next to this versions are most certain to produce sterility, for not only is the cervix tilted out of the way but the os is covered by the vaginal wall as with a lid. In flexions the obstruction is in the canal at the

point of greatest convexity, but this is somewhat overcome by the congestion and erection taking place during coitus.

In prolapse, unless complete, there is nothing to prevent conception except the debilitated condition of the uterus and vagina, for the penis naturally pushes the organ back towards its normal position as it comes in contact with the cervix.

Hervey relates an interesting case of procidentia uteri where coitus took place through the dilated cervical canal and was followed by conception.

As the uterus becomes displaced it draws upon and displaces the tubes to a certain extent, and in this way the entrance of semen into their uterine extremities or of the ova into their fimbriated extremities may be retarded.

Displacements may also prevent conception by producing congestion and thickening of the lining membrane of both the uterus and the tubes so as to occlude these channels.

Contracted pelvis may also prevent the union of ova and spermatozoa by hindering coitus, and Hofmann has recorded an example of this kind where connection was impossible.

Atresia or stenosis of any part of the genital tract may be brought about by inflammatory trouble. All pelvic inflammations—salpingitis, ovaritis, peri-metritis, para-metritis, etc., properly included by Dr. Georges Apostoli under the term “salpingo-ovaritis”—originate almost always in the uterine mucous membrane and spread from there, through the tubes, to the surrounding organs where inflammatory products are thrown out, the contraction of which results in a dislocation of the uterus, of the ovaries, or of the tubes, or in a closure of the lumen of the tubes. The lining membrane of the tubes also becomes thickened and when closure takes place in two or more places so as to prevent the escape of the secretions into the uterine or peritoneal cavities there results a hæmato, hydro-, or pyosalpinx.

Inflammation of the fimbriated extremities is quite common, and a dropsical condition may be found which causes an obstruction to the entrance of the ova into the tubes. In a case of laparotomy where I removed the right ovary the end of the tube was found inflamed, adherent to the ovary and closed, but it was healthy in all the rest of its course.

Tubercular disease may attack the tube, but the most common cause of salpingitis is an endometritis of gonorrhœal origin.

Acquired stenosis or atresia of the cervix may follow injuries during labor, or it may be due to syphilitic ulceration. In follicular endo-cervicitis the canal may be entirely closed by the enlarged follicles, or ulceration and contraction may take place, thus causing atresia or stenosis and preventing the entrance of the semen.

The application of the sharp curette or of too

strong medicinal applications may bring about the same results through cicatrization. Vaginal stenosis or atresia may be due to injuries during delivery or to syphilitic ulceration. Diphtheria may also cause sloughing and subsequent contraction. Simpson has seen simple vaginitis in children result in stenosis, due to an epithelial denudation with subsequent adhesion of the vaginal walls.

Vaginismus is a hyperæsthetic condition of the genitals, usually in virgins, causing a spasmodic contraction of the muscles of the perineum and vagina. It may be due to the small size of the vagina, to ulcers and fissures, to irritability of the hymen, and to organic disease of the uterus. Winckel reports cases in which subperitoneal fibroids seem to have been the cause of it, and Martin gives cold as one of the causes. In many cases self-abuse in childhood seems to have produced a congested and hyperæsthetic condition of the parts. This was the only cause that I could find in a married lady of nineteen, who had been married for nine months without ever having had connection. The hymen was elastic and normal in appearance, but when any attempt was made to introduce the finger into the vagina, intense pain was experienced and a spastic closure of the sphincter vaginae would occur.

E. Davis reported an interesting case where he was sent for by a gentleman to separate his coachman and maid, and this could only be accomplished after chloroform had been administered to the woman. The liberated organ showed that there had been a constriction at the sphincter and one higher up in the vagina.

Hypertrophy or new growths of any of the external genitals may be an obstacle to coitus and thereby a cause of sterility.

The clitoris may be so developed as to prevent the access of the male to the female. Hyrtl states that in certain of the African tribes the size of the clitoris is so great that it is fastened to the perineum by rings so as to act as a protection to virginity. It was most likely on account of its size that circumcision was formerly practiced in certain parts of Egypt, and is now in parts of the Turkish dominions. Elephantiasis of the vulva is sometimes a cause of sterility, and hypertrophy of the nymphæ is said to be a frequent cause among the Hottentots, Bushmen and Abyssinians. A large accumulation of fat on the pubes and around the vulva is a not infrequent cause of sterility in persons of somewhat advanced age. Benign and malignant growths of the perineum will prevent the introduction of the penis into the vagina. In a girl of 16 years, from whom I removed a large angioma of the right labia majora, coitus would have been almost impossible.

The vagina may also be so obstructed as to prevent the union of the ova and spermatozoa. This may be caused by cysts, fibrous tumors,

polypi, and malignant tumors of the vagina; by pressure from ovarian or rectal tumors; or by cystocele, rectocele, or enterocele. Kisch reports a case in which a mass of hardened feces in the rectum prevented coitus, and Schulze had a case in which the perineum of a 14 year old girl was developed to such an extent that the urine was passed with difficulty.

Tumors of the uterus may prevent conception by occluding either the os uteri or the openings of the tubes; they may also cause displacement of the ovaries and tubes, and when very large they may draw the uterus up so as to be out of reach of the glans penis. Indirectly uterine tumors may cause congestion or inflammation of the genital tract producing a condition unfavorable to the passage of the spermatozoa.

Hennig has recorded an interesting case in which hydrocele seems to have been the cause of sterility. Ovarian tumors may prevent the entrance of the spermatozoa either by causing compression or by drawing up the uterus, as in the case of large uterine tumors, and the same is true of tumors of the broad ligaments.

(6.) The normal vaginal secretion is slightly acid, and as stated before, unfavorable to the life of the spermatozoa, while that of the cervical canal is alkaline and will preserve their vitality for several days. Should, however, an inflammation of any part of the genital tract be set up, the spermatozoa, as has been shown by Lott, lose their vitality and die in a short time. This may be caused by vaginitis, endocervicitis, endometritis, or salpingitis. It is probable that the ova are also injured by coming in contact with diseased secretions, but on this point our knowledge is not definite.

There are many causes which may produce inflammation of the genital tract, but the most frequent of all is gonorrhœa. Nöggerath thinks that "latent gonorrhœa" is the cause in 90 per cent. of all cases of sterility. This figure seems too high, but it may be correct for the inhabitants of large cities.

Diseased conditions of the genital tract produce sterility more frequently by offering a mechanical obstruction to the entrance of the sperm, or by rendering the endometrium unfit for the implantation of the ova than by destroying the vitality of the germs.

Urinary and fecal fistula of the genital tract prevent conception not only because of the sense of disgust connected with them, but also by producing a diseased condition of the mucous membrane.

(c.) Among the artificial means used by women to prevent conception may be mentioned sponges and tampons of cotton introduced into the vagina against the cervix. Small rubber caps are also used by placing in the vagina so as to fit as a cap over the cervix uteri and thus prevent

the entrance of semen into the cervical canal. Other means are used to destroy the vitality of the spermatozoa. Among these may be mentioned injections of hot and cold water, and solutions of vinegar, alum, boracic acid and other medicinal substances. These methods are not as sure and much more injurious than the former. Abstinence from coitus for fourteen days after the last menstrual period and for three or four days before the appearance of the next flow is also a pretty safe practice, there being no ovum in the tract at that time.

The sexual desire in the male is much stronger than it is in the female, and in some females it is entirely absent. I have questioned many women on the subject and have frequently been told that it was months, and in some cases years after marriage before they could look on sexual intercourse with any feeling but disgust. This has been told me so often that I am inclined to think that the desire among the more highly educated women is educated and not natural. This also accounts for the fact that the first birth among the better classes is postponed longer than among the laboring classes. Most likely this is due to the development of the cerebrum at the expense of the cerebellum, and in time it is possible that the better class of Americans may become extinct, as have the cliff-dwellers, in whom, judging from their crania, the "organ of philoprogenitiveness" was poorly developed. Many women claim to be able to tell the exact time at which impregnation occurs, and there seems to be good grounds for accepting these statements as true. This is probably due to the perfect orgasm taking place in both parties at the same time. I have ascertained from many prostitutes that though they go through all the motions, when having intercourse, they allow orgasm to take place only when they are with their lovers. To this cause they ascribe the fact of not becoming pregnant and also of retaining their health for a long time. A married woman, whose husband is now suffering from syphiloderma, informs me that she has escaped contracting the disease by not allowing her passions to be aroused, and by bearing down and forcing out the seminal fluid after the act has been accomplished.

We see then that orgasm is more or less under the will-power, so that it can be hastened, retarded or kept in abeyance. It is also affected by all influences which debilitate the body or the nervous system. All agents then which tend to prevent complete and simultaneous orgasm in the two individuals are causes of sterility.

3. *Nonimplantation.*—Nonimplantation of the impregnated ovum in a healthy uterus may be due to disease of the tubes or of the uterus. After the ovum has become impregnated, most likely in the outer part of the tubes, it is carried by the current in the tubes, which is caused by the mo-

tion of the ciliated epithelium and which is probably assisted by a peristaltic action of the tubes, to the uterus. The uterus is also lined with ciliated epithelium whose motion is towards the tubes. This motion probably assists the entrance of the spermatozoa into the tubes and also acts as an impediment to the downward passage of the ovum. We have seen before that ovulation and menstruation are closely connected, so that by the time the ovum has reached the uterine cavity the endometrium has become swollen and its outer layer, at least, has been thrown off as detritus so as to offer a suitable nidus for the ovum. Here, if all is favorable, the impregnated ovum becomes attached and remains, undergoing development, till normal delivery takes place.

The frequent arrest of the ova in the tubes is shown by the number of cases of ectopic gestation. Mr. Tait claims that all cases of extra-uterine pregnancy are primarily of tubal origin. He admits the possibility of ovarian pregnancy, but denies that it is possible to have a case of primary abdominal pregnancy, and his assertions are borne out by recent investigations.

The arrest of the ovum in the tube may be caused by peritoneal or cellular inflammation, in which a constriction is brought about by the contraction of the inflammatory products; by pressure from tumors and new growths; by catarrh and swelling of the lining membrane, which may also affect the ciliary motion of the epithelial lining or the peristaltic motion of the tubes, and by pouches or dilatations in the tubes where the action of the current is lost.

The uterus may be sufficiently developed to receive the ovum and yet be unsuitable as a seat for future development. An arrest of growth may take place in fetal life, before the uterus and vagina have become differentiated, giving the "uterus foetalis," or its growth may be arrested in infancy while the cervix is very long and the body undeveloped, which results in "uterus infantilis," which, according to Biegel, is as frequent in cases of sterility as 4:155. Winckel has shown that fetal inflammation is a frequent cause for non-development of the uterus. Atrophy of the uterus may also be acquired, as in the condition known as "primary atrophy," which occurs in girls before the period of puberty, when they suffer from wasting constitutional diseases, from anæmia or from chlorosis. In weak mothers, who have suffered from puerperal complications, it is not uncommon to find the menses suppressed and the uterine walls in a thin and flaccid condition. This is known as "puerperal atrophy" of the uterus. A condition of the uterus which is unfavorable for implantation or development of the ovum may be brought about by inflammation of the peritoneum and cellular tissue surrounding the uterus; by inflammation of the uterine parenchyma, or by inflammation of the endometrium.

Peri- and para-uterine inflammations may spread to the uterine tissue itself, but most frequently they contract and produce displacements of the uterus or bind it down so that when the ovum enlarges abortion follows. They may also prevent the return of the venous blood from the parenchyma of the uterus, which results in hyperplasia, with a subsequent catarrh of the endometrium. Hyperplasia may also be produced by disturbances of the circulation due to valvular disease of the heart, but it most frequently follows the first birth and is caused by subinvolution.

The constant excitement due to excessive venery results in hyperplasia, and we find flexions producing the same results, but by arresting the return of the venous blood.

In all cases of hyperplasia the endometrium is found congested and the secretion from its glands, and the glands of the cervix, much more profuse and watery than when in a normal condition. It is probably in this way that hyperplasia acts, for in many cases where the endometrium is not too much diseased pregnancy occurs in spite of the thickened uterine walls. Hyperplasia may run into chronic metritis where true inflammatory products are thrown out, and this will prevent the development of the ovum even though it become attached.

As stated above, the inflammations around or within the uterus may extend to the muscular tissue proper, in which condition we find hæmorrhages from the endometrium quite common, and in this way the ovum, after having reached the uterine cavity, may be washed out. The cavity of the uterus also becomes larger than normal so that there is less chance for the arrest of the ovum, the nutrition of the endometrium is more or less disturbed so that implantation of the ovum is not likely to take place, and the irritability of the nerve supply is favorable to uterine contraction, which frequently results in the expulsion of the ovum.

Inflammation of the endometrium is the most frequent, directly or indirectly, of all causes in producing sterility. We have seen how it may produce changes which prevent the entrance of or are injurious to the vitality of the spermatozoa.

We have also seen how most para- or peri-uterine inflammations start from the endometrium, and either affect the production of the ova or prevent their union with the spermatozoa. It now remains to consider how inflammations of the endometrium may prevent the implantation of or development of the impregnated ovum. In endometritis there is a production of many small round cells which are deposited between the glands, so that compression of the glands takes place and results in atrophy, not only of the glands, but also of the mucous membranes. With this the secretion becomes thin and watery and

its reaction is altered, while the ciliated epithelium is thrown off and replaced by cylindrical and polyhedral epithelium. This gives a smooth and slick condition to the endometrium so that the arrest of the ovum in the uterine cavity is very difficult, or, should it be arrested and become implanted, the atrophied condition of the mucous membrane with the alterations in the subjacent tissues will favor its early expulsion.

All intra uterine growths, whether submucous fibroids, polypi, malignant or other tumors, prevent implantation or favor early abortion by altering the condition of the mucous membrane, or by offering a mechanical resistance to the development of the ovum.

Growth in the muscular tissue also alter the condition of the mucous membrane, but they act chiefly by preventing the uniform enlargement of the uterus as the ovum develops. The subserous growths may produce a condition closely resembling vaginismus and, if impregnation occur, the excitable condition of the nerves may cause early abortion. Intra-abdominal tumors may, if large, be an obstacle to the development of the ovum by directly compressing the uterus, as is sometimes seen in cases of multilocular ovarian cysts.

Cancerous tumors act by infiltrating the tissue of the uterus as well as by preventing copulation through the sense of disgust connected therewith. Should laceration of the cervix extend nearly up to the internal os it causes infiltration of the uterine tissue, which results in a loss of the relation between the ovum and uterus as development progresses, of which abortion is the consequence. Membranous dysmenorrhœa is in some cases a cause for the discharge of the ovum, but not in all cases, for many examples of child-bearing have been reported in women who were suffering from that trouble. Another cause for non-implantation of the ovum, which is probably more frequent than is generally supposed, is the application of the sharp curette or strong medicinal substances to the endometrium by unskilful hands. Their value, in suitable cases, when carefully applied, can not be over-estimated, but if the mucous membrane be destroyed in its entire thickness it must be replaced by cicatricial tissue unsuitable for the implantation of or nourishment of the ovum.

To enter into the subject of abortion would be rather foreign to the present subject, and it would require too much space for the present paper. Suffice to say that where habitual abortions occur, if neither the father nor the mother show any signs of syphilis, attention should at once be directed to the uterus. I have under my care now a lady who has aborted five times, and it was only in her last accident, the first in which I attended her, that a large uterine polypus was discovered. The trouble was supposed to be due to "habit."

(To be concluded.)

IN WHAT CLASS OF WOUNDS SHALL WE USE DRAINAGE? AND THE PRESENT POSITION OF ANTISEPTIC SURGERY.

Abstract of a paper read before the (to be concluded) Society of Boston

BY HENRY O. MARCY, A.M., M.D., L.L.D.,
OF BOSTON.

Dr. Marcy considered at length the subject viewed from the standpoint of the recent discussion at the International Medical Congress held in Berlin. He reviewed in detail the observations of Metschnikoff upon the power of the leucocytes to surround and destroy, to digest (so to speak), the bacteria when circumstances are favorable. It seemed to the writer quite too early to draw general deductions from these premises and declare that here the entire solution of the problem is found. There is every reason, however, to believe that this is an important discovery of a power which the organism brings to rescue it under favorable conditions from impending danger. The practical deduction of the lesson is that we seek to place the wound in such a condition that the phagocytes of Metschnikoff may be made the active allies of the surgeon. All this helps also, in a measure, to explain the successes which surgeons have obtained by means which seemed directly opposite in their methods of wound treatment.

Dr. Marcy carefully reviewed our present knowledge of the histological changes which go on in an aseptic wound, and showed that the so-called phagocytes had long been known to science as the leucocytes which, under favorable circumstances, develop into germinating tissue-cells with the newly formed capillary vessels, etc. A somewhat similar series of observations of equal interest and importance are seen to ensue about the ligature of an artery in continuity when the surrounding parts are maintained in an aseptic or healthy condition. Here repair takes place by the host of little workers leading up their forces in different directions. The blood-clots in the extremity of the occluded vessel undergo changes not unlike those already referred to in other locations, while the leucocytes speedily surround and shut in the material used as a ligature, forming a capsule. At an early period this may be lifted away from the thread, more or less distinctly as a layer, and little or no change has taken place in the constricting material, although this may differ very widely in character. Even when applied to the vessels of very young animals, after a considerable period, the silk ligature is comparatively unchanged. Often at the end of three or four weeks it may be found intact, although firmly shut in by a sheath of new connective-tissue cells.

When the tissues are held at rest, the same general condition may be observed, if silk-worm gut or silver wire has been used. After a period

of some weeks, the silk ligature may have completely disappeared, and the changes which have led up to this are traced in an invasion of leucocytes between the strands and fibres of the silk, slowly separating them and causing their disintegration. If these conditions are interfered with in a mechanical way, this process seems to be held in abeyance.

The cell changes which should go on in the development of connective tissue fail, and then the little army of workmen invade the surrounding tissues, and the processes, earlier called proliferating, ensue, and the constricting material is thrown off as a foreign body. When an aseptic animal ligature has been used, catgut or tendon, and the parts about maintained in a healthy state, the ligature material becomes invaded by leucocytes, which utilize it for their own development, causing it, little by little, to disappear. So marked is this process that an aseptic animal suture, introduced into various parts of a healthy young animal, may for a considerable period be traced by a line of newly-developed connective tissue, although not a single vestige of the original material remains. These processes have for a long time been recognized in a general way and accepted, and yet we are all familiar, almost equally so, with the reverse of the picture, where any considerable colony of micrococci develop in the line of a wound.

Here this process may be completely local; that is to say, the leucocytes surround and shut in the invading army with a wall of living granulation cells until, little by little, it is forced to surrender and a localised abscess is the sum total of damage. The most of us, however, who were surgeons of an earlier day recall the too common and, I am sorry to admit, even at present, not rare experience in the every-day work of many—the foul suppurating wounds and general systemic poisoning. In such wounds the feeble barriers of leucocytes, thrown up against an invading army, fail to protect the organization, and the much-dreaded "blood poisoning" supervenes.

If it may be accepted, in a general way, that the above observations are correct, let us use them as basic and fundamental from which to draw further conclusions. If we find in the so-called phagocytes of Metschnikoff the familiar leucocytes above mentioned, we certainly have, in a very considerable measure, an explanation of the vital resisting power of the individual organism. If, under favorable circumstance, these cannibalistic little workmen not alone surround, but actually eat up their enemies, we have the best of reasons for understanding why the comparatively few germs in the atmosphere of a healthy locality are far less dangerous to wounds than was earlier supposed. Again, too, we see that in the so-called surgically clean wound, that is a wound where great care is taken to exclude foreign ma-

terial, where blood-clots are removed, and the comparatively uninjured clean-cut surfaces are closely approximated—the reparative processes go on steadily, and rapid recovery supervenes, although in a strict scientific sense the wound is not aseptic.

In wounds where the surrounding tissue is devitalized these favorable conditions are not maintained, and here the germination of bacteria goes on much as seen in laboratory culture experiments.

Dr. Marcy then reviewed at length the important contribution of Sir Joseph Lister, delivered before the Medical Congress in Berlin, and Mr. Tait's reply to the same holding, as usual, opposite views, he declaring that the whole basis of antiseptic surgery is, "an absolute and ludicrous logical error." Dr. Marcy closed his address with the conclusion, that the unbiased student must observe in the recent progress in wound treatment a fundamental truth based upon the repeated observation of abundant facts. This consists of three factors: 1. The condition of the patient, the so-called vital resistant power; 2. The bacterial infection, the seeding of the field; 3. The condition of the soil, the pabulum necessary for the growth of the direful harvest. Upon this tripod at present rests the scientific basis of wound treatment. There are many workers equally earnest, equally thoughtful. It is better they should make their observations as independent original investigators. Much profit comes from the results of such heroic workers, as Mr. Tait, Dr. Bantock, and many others we could mention. The recent teachings of those who advocate the so called dry treatment of wounds convey another side view of the great fundamental truth of much value. Here primary union is prompt and there is little effusion which seems to require drainage. It will be noted that Sir Joseph Lister looks forward to the possible abandonment of drainage, which he has during the last three years greatly lessened. On the contrary, Mr. Tait, as may be inferred from his writings, elevates drainage to a most important factor of wound treatment, and at the late International Medical Congress, both he and Dr. Bantock predicted a greatly extended use of the drainage-tube. They disregard the bacterial infection, but insist upon the withdrawal of all material which could aid in its possible development.

The ideal of wound treatment is surely to restore the condition of the parts to as nearly their primal state as possible. If this can be assuredly aseptic, then there is no bacterium to remove; if surgically clean, with accurate coaptation of the sundered parts, then there is no material which needs removal, nothing to drain. If, as we have seen, the leucocytes go promptly to work under such favorable conditions, the first series of the repair processes takes place, which ends in a prompt

and speedy restoration. This should be effected under a dressing which will permit of the introduction of no foreign factorage. To this end Lister has unweariedly labored, for nearly a quarter of a century. The various antiseptic dressings, now so generally employed, have a value in wounds necessarily drained, which must be considered open to a possible infection, but in a wound that is closed without drainage they are unnecessary, expensive, and cumbersome. Lister's ideal protective varnish is found in the closure of the wound with iodoform collodion.

My last five years of experience in the treatment of aseptic wounds of every variety, closed in layers with buried tendon sutures and treated in no other way than by a protective layer of collodion, is cited in ample proof. Even in the major amputations, such wounds go on to a speedy repair without pain or œdema of the surrounding parts. Call the various methods adopted to secure the end obtained by whatever name you will, the great fundamental principles of antiseptic surgery, as enunciated by Sir Joseph Lister many years ago, rest upon a sure foundation, and the results in modern wound treatment are the marvel of our age.

From this brief review of well-known facts, it is obvious that the real object of drainage is not so much the removal of the serum, blood, and devitalized tissues, as it is to remove any possible bacterial infection which may have invaded the wound; for it is quite impossible to divide and rejoin tissues without the effusion of blood and serum, and in a greater or less degree devitalizing the adjacent structures. Since these are very important factors, it is of the first consideration on the part of the surgeon, that he minimize as much as possible these conditions, for the reason that they render it very probable that the introduction of bacterial seed into such a soil will be followed by direful results.

Is the present state of operative procedure sufficiently accurate to warrant the assurance that such complications are not to supervene? This is the question which must first be satisfactorily answered before we are in a position to determine at all positively when we are to use, if always, or not at all, the drainage-tube, in the hope thereby to remove the fermenting material, so dangerous if allowed to remain.

It is certainly clear that the experience of the last twenty years has been leading to the solution of this problem, until now it seems demonstrated beyond a doubt, that an aseptic wound may be made in aseptic tissues, and maintained aseptic until restoration is complete. If this is true, the *modus operandi* of modern wound treatment must be mastered as the ritual service of a higher religion, before the surgeon is competent to enter upon the serious responsibility of his office. If aseptic conditions are maintained, then we may

safely conclude that the drainage of the wound will not be necessary, and if unnecessary, certainly undesirable. At the best the drainage-tube is a foreign body, and its presence in the wound prevents primary union of that portion of the tissues which enclose it. It keeps the wound, to a certain extent, an open one, and as such makes secondary infection so probable that the most careful antiseptic dressings are advised to absorb and disinfect secretions and prevent atmospheric contamination. In an aseptic wound, after the removal of the tube, the final closure of the tract is comparatively slow, and by granulation. These are well-recognized objections, and efforts have been made to overcome them by many ingenious designs.

If drainage is to be discontinued in aseptic wounds, it must be accepted that the greatest care should be exercised in leaving as little devitalized tissue as possible, and in evenly coaptating the divided parts. The wound should be clean and dry; the different layers of the tissues should be joined with as little injury as possible, and the external wound should be protected from infection. Irrigation should be employed with a minimum of sponging, and joining of the tissues by light, running buried animal sutures, preferably tendon. The skin is evenly coaptated by a similar suture, taken from within outward through the deeper layer only. Then the wound is sealed with a germ-proof layer of iodoform collodion reinforced by a few fibers of cotton. Such wounds go on rapidly to repair without œdema of the tissues, pain, or tenderness.

"Are all aseptic wounds to be thus treated? I unhesitatingly say yes, even to the major amputations; abdominal operations included."

As a matter of fact, I find in my last forty abdominal sections I have not once used drainage, and have noted no reason to regret not employing it.

The seed and the soil, and the varying conditions of each, must ever be kept in consideration. When in doubt of infection in a wound, especially when its character will be likely to be attended with an abundant albuminoid secretion, drain; but let the surgeon ever remember that the highest theoretic condition of wounds is their restoration, as nearly as possible, to the normal relation of the tissues, and their retention at rest in an aseptic condition. This, in a great majority of wounds, renders drainage not only unnecessary, but when applied, it will be a positive detriment and a source of danger. I am assured that the better knowledge of the conditions of wounds will restrict the use of the drainage-tube to septic wounds, and that operative wounds in aseptic tissues will be aseptically maintained by primary closure without drainage.

(For discussion see Society Proceedings.)

DEATH DURING CHLOROFORM ADMINISTRATION.

Read before the Medico-Legal Society of Chicago, Dec. 6, 1890.

BY C. T. PARKES, M.D.,

PROFESSOR OF SURGERY RUSH MEDICAL COLLEGE, ATTENDING SURGEON PRESBYTERIAN HOSPITAL, ETC., CHICAGO.

The case which I desire to report to-night is rather a notorious one, and I have concluded to report it at the request of the President, without preparation, because it is of great interest to the profession, and because I am quite sure there is no one who will better remember the circumstances attending the case or who will be less likely to forget them. It is a case of death which resulted in a child under the influence of chloroform during the month of November last. These cases are always doubly unfortunate. They are unfortunate in the first place, and beyond all other reasons, on account of the death of the individual, and the terrible news which is so suddenly brought to the bereaved friends. They are unfortunate because they remind the profession of the fact, which cannot be disproved, that physicians have not found an absolutely safe anæsthetic. All anæsthetics are dangerous, and all of them occasionally cause death, and the most astounding part about it to outside individuals is, that doctors cannot tell why the patients die under these circumstances. These cases of death under anæsthetics are always unexpected, and in the vast majority of cases unavoidable.

This patient was a bright, perfectly healthy little girl, about 11 years of age. She had on her face a large mole covering the greater portion of the surface of the cheek, measuring more than two and one-half inches in one direction and over one inch in another. It was dark in color and had on it a large growth of coarse hair. It was a source of very great annoyance to the child, increasing her timidity, and of great trouble to the friends. I, and other physicians who saw the case, recommended its removal, because we had had experience in such matters, had done such operations safely, and because it could not be removed in any other way than by surgical operation. There was nothing in the appearance of the child upon examination that would counterindicate the use of an anæsthetic in any way, and chloroform was chosen; because, personally, I do not believe there is a noticeable amount of difference between the two anæsthetics, chloroform and ether. The difference which seems to exist I believe is based upon the fact, that a larger number of physicians use chloroform than use ether. And although the number of deaths recorded as following the use of chloroform are greater than from the use of ether, it is dependant upon the fact that chloroform is used oftener than ether. But the fact still remains that all anæsthetics and all combinations of them have been

followed by unexpected death in individuals who were healthy as well as in those who were diseased, and the post-mortem examinations made after death have in no case shown satisfactorily the cause of death, so we do not understand absolutely why they die.

In this case the anæsthetic was commenced in the room which the parents of the child occupied, and was given by an interne, Dr. Gill, of the Presbyterian Hospital. At first the child exhibited no more excitement and no more opposition to taking the chloroform than do other patients, and not nearly as much as many. It is the constant experience of physicians that they are compelled often to use physical force for some time before the patient is anæsthetized; that was not so in this case. I was a little anxious about the case and was ready to do the operation, but the patient did not appear, so I sent a second interne, Dr. Jay, to see what the trouble was. He did not return for some time and I sent the chief assistant, Dr. Ochsner, and in a few minutes the child was brought into the room quietly asleep. The anæsthetic was then given into the hands of the oldest interne, Dr. Albright, and he administered it carefully during the operation. The operation required about twenty-five minutes; it was about the face, and my hands, which are not very small, were over the child's face all the time and consequently the anæsthetic was not used steadily, very little chloroform was given to the child. The instrument used for giving the anæsthetic was Bismarck's inhaler, a wire frame covered with flannel, with which it is impossible to absolutely prevent the entrance of air. The child made no demonstration of any kind that would attract attention. The operation was practically completed; the pigmented naevus was removed and pieces of skin taken from the thigh for transplantation, to cover the defects and diminish the amount of scar, were being put in position; when, without any warning, without the administration of any chloroform for at least five minutes, the child was seized with general convulsions; she ceased to breathe, her heart ceased to beat, she gave a few gasps and was dead. Every effort was made for an hour and a half to restore circulation and respiration, by artificial respiration, injection of ether and whisky and nitrite of amyl, and the use of electricity, but all efforts failed.

The case is interesting to all medical men, and to all lay people. To medical men because it shows, as I have said, that ether and chloroform are dangerous anæsthetics, and it confirms the experience of every physician, that when such an unfortunate happening as this comes upon him, it is unexpected, and no matter what care he may use and what attention he may give to the case, such accidents do occur. It is a well-known fact among my friends that I am especially care-

ful about anæsthetics, that I dread all of them. I never have a patient put to sleep without watching them personally, no matter who is my anæsthetizer. My mind was on it, as well as the operation in this case, and I gave advice repeatedly during the administration of the chloroform as to the necessity of ceasing to give it or of giving a little more. The death in this case was truly and absolutely an unavoidable occurrence, such as may meet the physician any time and under any circumstances while using an anæsthetic. It shows the necessity of medical men fully protecting themselves against unjust suspicions and attacks on the part of any one, by never giving an anæsthetic, under any circumstances, unless one is able to prove that the circumstances attending the case were proper in every way.

MEDICAL PROGRESS.

Medicine.

THE OIL-SILK JACKET IN ASTHMA.—DR. S. C. BUSEY, of Washington, has used the oil-silk jacket in bronchial asthma with good results, and recommends it for further trial especially in that type of cases which is under the influencing control of climatic and atmospheric conditions. In the case of one patient the regularly recurring winter paroxysm has been apparently kept well under control whenever the jacket has been adopted at the onset of an attack; from October, 1889, to January, 1890, the jacket had been worn continuously; when it was removed, about January 1, 1890, because of the discomfort incident to a period of unseasonably warm weather. Since its last removal the patient has had numerous very slight attacks of dyspnea, coming on during the early morning hours but disappearing after sunrise; none of these attacks were noticed during the time of its being worn. How far idiosyncrasy influenced the good effects obtained by Dr. Busey, he admits that there is room for doubt, but the suggestion is offered by him in the good faith that the treatment may be tested by a more extensive trial, and thus found a useful expedient to some of those who suffer from asthmatic and bronchial complications.

FIBRILLARY CHOREA.—DR. MORVAN (*Gazette Hebdomadaire*) has observed five cases of peculiar fibrillary tremor to which he has given the name "*chorée fibrillaire*," and which he thinks constitutes a new clinical group. His first case was a young peasant who had always been well but who complained of a peculiar trembling in the buttocks and a general feeling of weakness. The tremor increased and involved successfully the thighs, back, shoulders and arms. The contractions were confined to the single muscle bundles and so did

not produce movements of the limbs; they were irregular so that the skin over the muscles rose and fell like the keys of a piano. The patient could perform all of the usual movements, and during voluntary contraction the abnormal ceased. The affected muscles were painful, and pain was felt in the legs when in the upright position. Temperature was normal but the pulse was very rapid. The contractions became more frequent and were especially marked in the buttocks and deltoid. The face, hands and feet remained free. Three weeks after the beginning of the disease albuminuria was found, and a few days later delirium came on and the patient died comatose.

Another case was that of a boy 16 years of age who had similar fibrillary contractions, especially in the buttocks and thighs. With the use of warm baths at the end of four weeks the contractions ceased. The disease returned early in the summer of each of the next three years.

A young woman, 23 years of age, was similarly affected, associated with general weakness and chlorosis. Recovery at the end of four months, and three years later a slight attack of the same trouble. Two additional cases are given, both young girls with a history similar to the one above described. In each of these the contractions were confined to the legs.

Surgery.

APHASIA DUE TO ABSCESS OF THE BRAIN.—SENGER and SICK (*Deutsche med. Wochenschr., Centr. f. Chir.*, No. 40, 1890) report a case which is interesting because the location of the abscess in the posterior third of the left temporal lobe was diagnosed by the presence of sensory aphasia. The patient, a man fifty years of age, seemed to be suffering from some psychical trouble. He did not answer the questions which were asked him, but simply pointed to his left ear, which was so much swollen that the external meatus was nearly closed. In three days this swelling had become sufficiently reduced to reveal the discolored drum membrane, through a perforation in which a small quantity of foul-smelling pus escaped. He lay silent and not appearing to notice, but when excited he talked much in incomprehensible language. He could not give the right name to objects, but, instead, gave a roundabout description of them. The pulse was slow, 48 to 56 a minute; he suffered from headache, periodical vomiting, and stubborn obstipation. Finally a right-sided facial paralysis appeared, together with a weaker power of pressure in the right hand. The wife of the patient said that her husband had for several years had a discharge from his left ear, and for the last fortnight had complained of pain in the ear and headache. From these circumstances—that there was a chronic suppurative inflammation of the middle ear, acute symptoms of pressure on the brain, and

aphasic disturbance—the diagnosis of abscess of the brain in the posterior third of the first temporal convolution of the left side was made, and this diagnosis was confirmed by operation. The result of the operation was pronounced "ideal" nearly three months afterward, in spite of a small hernia cerebri which complicated the convalescence.

The writers maintain that only two cases have hitherto been reported in which the diagnosis of abscess of the brain was made from the presence of aphasia.—*N. Y. Med. Journal*.

CARCINOMA MAMMÆ.—BIHLER (*Münchener Dissertation*, 1890) reports the results of forty operations made by Angerer. In each case the entire gland was removed, and the axillary space was cleaned out whether the enlarged glands could be felt or not. In most of the cases the pectoral fascia was removed and in the later cases a portion of the muscle itself. In cases of relapse the masses, if movable, were removed with the knife, when the gland was affected, and with large tumors, they were excised with the thermocautery after the method of Nussbaum.

The results to date are: Dead 65 per cent., 12.5 per cent. live but the disease has returned. In 20 per cent. there has been no return of the trouble, among these are three in whom more than three years have elapsed since operation, and two in which more than two years have passed.

ACTINOMYCOSIS OF THE SKIN.—TILANUS (*München. Med. Wochenschr.*) reports a case in which the skin of the face was alone affected, the muscular structures and mucous membrane of the mouth remaining free. Two similar cases have been reported, one by Albert, the other by Majocchi.

The history of the case was briefly as follows: A young woman 22 years of age presented a swelling of the right half of the face that slowly increased and later opened in several places; finally the whole region from the external angle of the eye and including the side of the neck as far as the angle of the lower jaw. The skin of the part presented red prominent masses interspersed with patches of healthy tissue, with here and there an ulcer, which discharged a sero-purulent fluid. The few remaining teeth were carious and were removed. Treatment consisted in thoroughly curetting the affected skin, and free applications of a solution of corrosive sublimate.

The etiology of the trouble was obscure, but the author thinks the carious teeth played an important rôle in the production of the disease.

Dr. Lesser, of Halle, contributes to the *Arch. für Klin. Chir.* three cases of actinomycosis hominis in which the skin alone was affected. The first was that of a salesman 35 years of age

who had suffered from toothache for one year, and had eighteen extracted. For six months has had an ulcerated swelling of the forearm. A careful examination revealed similar ulcerations upon the right side of the head, in the right infraclavicular groove, and the left side of abdomen.

A second was that of a 34 year old man, who for several days had presented two swellings on the right calf. The enlargements were painful and the patient had rigors with high fever. The subcutaneous lymphatics were not involved.

A third was that of a locksmith, who six weeks previously had been lightly burned upon the right leg. In this region a slight swelling appeared, which rapidly increased, followed by ulceration and the discharge of some pus.

All three cases made a rapid recovery after excision, curetting and cauterizing. The diagnosis in each case was confirmed by the finding the *strahlenpilz* in the discharges of the wound.

The author says that it is of special importance to note the great variability in the clinical picture presented by actinomycosis of the skin in man. At times the process may be sub-acute; again, it may be acute with marked disturbance of the general health. As a rule, swelling of the regional lymph glands is not present.

Obstetrics.

BROMIDES IN VOMITING OF PREGNANCY.—DR. WERTHEIMER, of Freiburg (*Centr. bl. f. Gynäk.*, December 20, 1890), describes the case of a woman, aged 33, who had borne eight children, who had required artificial abortion at the third and fourth month respectively in two labors, on account of uncontrollable vomiting. She once more became pregnant, and violent sickness set in only fourteen days after conception. No nourishment could be taken, and she soon became dangerously exhausted. Belladonna and morphine failed to influence the sickness. Bromide of potassium checked it slightly. Dr. Wertheimer then gave, every two hours, half an ounce of a mixture consisting of three parts of bicarbonate of soda, two of bromide of potassium, two of bromide of sodium, and one of bromide of ammonium, dissolved in thirty parts of syrup of orange peel, and one hundred and twenty of distilled water. The vomiting ceased, the patient's strength increased, and, at the time of the report, the patient had passed the fifth month of pregnancy without any return of the sickness.—*Brit. Med. Journal*.

TREATMENT OF PLACENTA PRÆVIA.—DRS. W. J. KOLFF and TREUB (*Nouvelles Archiv. d'Obstet.*, September, 1890) record the results of this malpresentation, as observed by them at Leyden. Between 1856 and 1879 26 cases of placenta prævia were noted by Dr. Kolff, with a mortality of 42 per cent. On the other hand between 1887 and 1889 Professor Trenb has ob-

served 13 cases. In all of this series he performed combined version, losing only one patient. The fatal case cannot fairly be attributed to the method of delivery, for the woman died of pyæmic phlebitis, set up by a dirty sponge which the midwife introduced into the vagina to check the hæmorrhage before version was performed. Hence the mortality did not amount to 3 per cent. Of the children 8 (or 61 per cent.) died, but 4 must be subtracted as the heart sounds could not be heard before version; thus the precise mortality was 30 per cent. During childbed bad results were observed only in cases that had been previously examined by midwives, except in one instance, where the vagina had been plugged with sterilized absorbent gauze instead of iodoform gauze. The great principle of practice at Leyden is to separate version from extraction. The former is undertaken in order to save the mother. It is only in cases of subsequent hæmorrhage that extraction by the feet is carefully undertaken. Dr. Kolff praises that practice, as it renders interference practicable very early in the labor, before the mother is exhausted by hæmorrhage, saves her from the risks of prolonged plugging, and allows the later part of labor to continue slowly and yet without danger. The risk of *post-partum* hæmorrhage is thus greatly lessened. The risk to the child is theoretically great, yet the above statistics prove that the infantile mortality is not very high.—*Brit. Med. Journal*.

THE MANAGEMENT OF THE MENSTRUAL EPOCH.—DR. A. W. PARSONS, of Northampton, Mass. (*New York Medical Journal*), says: "During the past few months I have adopted a procedure which has afforded me the heartfelt gratitude of every woman who employs it. For obvious reasons its use will be largely confined to married women. A full-sized tampon of antiseptic cotton, to which a string is attached, is inserted into the vagina through a speculum as soon as the premonitory symptoms of the approaching menstrual epoch are noted. It may be left *in situ* for twenty-four hours, unless the uterine discharge begins, when it should be removed as soon as it is saturated, and the vagina washed out with a warm antiseptic solution by means of a fountain syringe, and a fresh tampon introduced. This procedure should be continued until the flow ceases. The principal disadvantage of this method is the difficulty of using the speculum and preparing and introducing the tampon; but I have met with no case where one or two lessons did not teach the woman the *modus operandi*. Its advantages are many. There is entire absence of odor, no necessity of wearing the napkin, and the sense of support to the uterus afforded by the tampon is immediate, and exceedingly grateful."—*Medical Record*.

Pathology.

RELATION OF STOMACH DISORDERS TO AFFECTIONS OF THE MALE GENITAL ORGANS.—PEYER (*Sammlung Klin. Vorträge*) claims to have demonstrated reflex neuroses of this kind in over 300 cases. He points out the close, and frequently observed connection between disease of the female generative organs and the stomach, and claims that a similar relation is to be observed in the male. The principal cause of these neuroses he finds in onanism, *abusus sexualis* and coitus reservatus. The symptoms relating to the stomach are atony, gastroplegia, nervous vomiting, eructations, cramps, and the secondary disturbances of these conditions. The diagnosis is oftentimes difficult, but may be made by the presence of the products of chronic urethritis (*urethral-faden*), and the so-called *Hodencylinder* in the spermatic urine.

Therapy is to be especially directed to relieving the local sexual disorders, and the condition of the nervous system.

VIRULENCE OF THE SUPRA-RENAL CAPSULES IN RABIES.—BOMBICCI (*Riforma Medica*) has determined that the adrenals contain a considerable quantity of the rabic virus, though less than is found in the central nervous system. When portions of the capsules are injected into healthy animals it produces the characteristic phenomena of rabies, but the disease is milder than when portions of the cerebro-spinal axis are used.

The writer determined experimentally that there was a true ante-mortem accumulation of the poison in these organs, and not a simple post-mortem diffusion.

Bacteriology.

THE PRODUCTS OF PATHOGENIC BACTERIA.—During the past two years great progress has been made in the study of the action of pathogenic bacteria. This work has chiefly been carried on by Koch and Pasteur on the Continent, and by Drs. Sidney Martin and Hankin in England. In the *Revue de Médecine*, 1890, No. 7, DR. CHARLES BOUCHARD publishes an article on the properties of the substances secreted by pathogenic microorganisms. It contains the chief part of his address before the Tenth International Congress on the "Mechanism of Infection and Immunity." After an exhaustive summary of all that is known concerning the action of products of metathesis with which we are acquainted, Bouchard relates a series of thirty-one experiments which he made, partly in order to investigate the power which blood-serum possesses of destroying bacteria, and partly to ascertain how far their products confer an immunity against similar or other bacteria. Many experiments demonstrated the influence of the same products on phagocytosis. The space here is too limited to enter into the details of this interesting paper, but the general results of Bou-

chard's investigations are as follows: Among the substances secreted by the microbes are some which have an inhibitory action on them—that is to say, these products tend to retard the development, increase and characteristic action of the microorganisms; other substances are favorable to their growth. These, however, only act indirectly by modifying the material upon which they grow (peptones, etc.). Such products may be favorable or unfavorable for other microbes. Some organisms produce poisonous substances upon which depends their virulency. Amongst pathogenic microbes are some which secrete substances that confer upon animals inoculated with them an immunity against these particular germs; this they do not by their presence only, but by modifying the animal organism, so that it forms a less favorable pabulum for the development and growth of the bacteria, and causes the leucocytes to perform the process of diapedesis more rapidly, and to assume their functions as phagocytes more energetically. If an animal be inoculated with these substances, together with a pure culture of the same bacilli from which they were obtained, the disease runs a more rapid course, whilst its development will be delayed or prevented if the animal be inoculated a few days before the injection is made. If bacteria which act antagonistically towards one another be cultivated together in a test-tube, the soluble products of the "stronger" can be made to retard the development of the "weaker" organism. So that if an animal be inoculated with the products of metathesis of the "stronger" at the same time as the active principle of the "weaker," the action of the latter will be delayed and weakened. Some microbes appear to assist the action of others; these Bouchard terms "auxiliary microbes." By this means an animal may be infected with a disease which it would otherwise resist.—*Lancet*.

GERMICIDE ACTION OF THE GASTRIC JUICE.—In the *Watch*, Nos. 38, 40 and 41, 1890, p. 894, Dr. BORIS I. KIANOVSKY, of St. Petersburg, publishes a valuable paper on the subject, embodying his elaborate experiments on fifty persons, some of whom were healthy, some suffering from gastric cancer, dilatation of the stomach, etc. The author's essential results may be summarized somewhat as follows:

1. A fasting healthy stomach always contains great numbers of microbes of various species.

2. The numerical strength of such microbes as are found in the gastric contents an hour or so after a meal stands in a direct relation to the number of microbes in swallowed food, drink, air, etc.

3. The gastric juice possesses distinct antimonycotic properties, which are to be attributed mainly to the presence of a free hydrochloric acid.

4. "Given a gastric juice of a normal average

general acidity, and with a normal average proportion of free hydrochloric acid, the secretion kills the bacteria in a systematic manner—that is, the longer it remains in contact with the microbes the greater number of the latter are destroyed."

5. In the case of the juice of a subnormal acidity, however, the bacteria continue to steadily grow in number.

6. The microbes do not seem to take any part in the gastric digestion.

7. In such sick persons whose gastric juice still continues to contain a sufficient proportion of free hydrochloric acid, the secretion proves to possess the same germicide properties as in healthy people.

8. Such sick persons whose stomach elaborates but trifling amounts of free hydrochloric acid, are liable to be infected through the organ to a greater degree than healthy subjects.

9. "Nobody should allow his stomach to remain empty for a long stretch of time after morning rising; especially medical practitioners should take care in this regard."

10. "In times of epidemics (*e. g.*, cholera) everybody should avoid fasting for a long period. It is advisable to arrange one's meals in such way that the stomach could always contain a certain quantity of food (sterilized, if possible)." — *Provincial Med. Journal*.

MICROORGANISMS IN LEUKÆMIA.—DR. CLAUDIO FERMI (*Centralbl. für Bakt. u. Parasitenk.*, Band viii, No. 18, 1890) was able, some eighteen months ago, to separate from the enlarged spleen of a man, aged 55, who died of leukæmia, with enlargement of the various organs and of the peritoneal, mesenteric and axillary glands, pure gelatine plate cultivations of an organism which appeared as rounded or oval, white, non-liquefying colonies. Inoculated into gelatine in tubes, the growth appeared principally at the surface in the form of a milky-white, thickish layer, growing moderately rapidly, and gradually giving rise to slight liquefaction beneath. These colonies were made up of short, thick rods with rounded ends, the centre of the rod remaining unstained. At first he was inclined to assign no special rôle in the production of leukæmia to these organisms, but as he was unable to find them in similar positions in twelve other bodies that he examined—cases of pleurisy, meningitis, nephritis, sarcoma, diphtheria, tetanus and typhoid fever—he came to the conclusion that they must have some definite relation to the disease. Kelsch and Vaillard have since then shown that these organisms are pathogenic to rabbits, and that after the death of the inoculated rabbits they may be found in the blood.—*Brit. Med. Jour.*

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THE HIGHLANDS OF MEDICINE.

There is a certain class of medical literature and teaching that is made so positive and dogmatic, as to create doubts and suspicions of its reliability. Many very good teachers err in supposing that unless they state the facts of medicine in the most positive way, it never can impress the student. Often medical text-books are written in this spirit, and students and readers who accept them as final, have much to unlearn in after life. While it is not quite true that the positive dogmatic man, on questions of science, *is a quack*, it is true that empiricism depends on the positiveness by which it is proclaimed. DARWIN expressed the truth when he said: "Ignorance more frequently begets confidence than does knowledge; it is those who know little and not those who know much who so positively assert that this or that problem can never be solved by science."

The leading teachers and writers in all the exact sciences, are particularly noticeable for their modest statements of facts, only claiming that from their experience and the evidence before them such facts appear to be true. Often these leaders of science differ widely, and the reasons for it are stated, and the facts become a matter of study and criticism, in a spirit and evident consciousness, that on wider knowledge may show the errors of both. This does not appear so clearly in the science of medicine. To-day there are far too many medical teachers, authors, and journals and books, that are down on the very

lowlands of science, who assume that a fact which seems apparent, is final and unchanging; that there are certain great basal truths in medicine absolutely fixed, and to these there should be a steady accumulation. To such men the science of medicine is merely a hunt for new fixed facts.

If certain phenomena occur in their experience often, they conclude that it is an absolute fact, and become warm defenders of it. Such men never have broad comprehensive views of medicine. They do not realize that medicine like other sciences is still very far down, and in the infancy of its growth. The anatomy of the body, outside of a few facts, is unknown; practically the physiology is a mass of unproved hypothesis; the phenomena of disease and diseased changes are equally hypothetical and unknown. In chemistry, the atomic theory is still vague and uncertain, and altogether theoretical. In materia medica a most bewildering mass of statements and theories follow each other, like the shifting scenes of a panorama. Surgery and practice of medicine and all the newer theories that come up in a night, are like the troubled waters of the ocean, incessantly changing, and taking on new and old aspects. Yet with all these theories, and confused, hypothetical apparent facts, there is a tremendous movement towards some great central truth, or ranges of truths, which can only be seen from a higher point of view. Every medical man who has gone up far on the frontiers of medical research realizes this, and is startled by the fact that all this theory and hypothesis in medicine, are but stepping-stones and roads of advance, to be abandoned farther on. The physician who from his inner consciousness, or from a mass of statistics, brings out some new theory which is accepted because of its reasonableness, or the author's reputation, is sadly deluded if he supposes he has found a final truth. A few years and it is replaced by other wider theories, and if we believe the modern doctrine of evolution, this birth and death of theories is only the advance of mind towards the manhood and Godhood of the race.

These views are illustrated in the present excitement of a new remedy for consumption. Many of the journals, essays, lectures, and editorials, on this topic have startled the reader by their positive completeness, and clear conclusion that almost a millennium had arrived for the poor

victims of phthisis. Credulity and expectancy merged into sharp rivalry, to usher in this new era. The broad scientific statement of the discoverer that so far, there were many reasons for supposing that such and such results would follow the application of such and such means, and giving the experimental evidence on which he ventured such a general opinion, was the true voice of a scientist. While the positive excited statements which followed, were but the noise and roar of those far down in the valley, unable to comprehend what this master of research, had seen higher up.

Most of the real advances in medicine have come silently, and after a time it becomes difficult to find the exact source. Many real workers in different parts have reached similar conclusions, from different points of view, and from their quiet conservative statements, new ranges of facts have appeared. The noisy, assertive student who makes out a complete theory, and defends it sharply in journal or volume, is rarely a true scientist.

The medical man who is on the highlands of science to-day, is never dogmatic or positive, all his conclusions and opinions are stated as only apparent truths at present, but subject to constant revision and change, from the application of new facts and evidence. Medical science is really a study of the laws of human evolution and dissolution, and all our knowledge of necessity must be imperfect and open to error, and subject to constant change. What is most needed is a judicial analytical method of study. Not a crowding of statements and theories, but education of the mind to discern and compare the appearances and phenomena of human life. Hence positive text books, lectures, journals and essays which assume completeness, in their theories and statements, are obstructive to science. New discoveries, and new theories and methods of treatment, are to be welcomed always, but never as final absolute truths. If this could be realized literally, we should have no *fads* in medicine, no popular delusions or theories, that would die away only to give place to others. The bacilli and each new theory would pass the gauntlet of critical examination, and quietly take its place as an open door to wider realms of study. CARLYLE'S criticism is unfortunately not untrue, for many of the profession: "Doctors, like the masses

of mankind, keep down in the valley of knowledge and science; only a few ever climb up the highlands and see the race march with the eye of true science."

NON-ISOLATION IN TYPHUS FEVER.

DR. FÜRBRINGER reports to the Berlin Medical Society the principal data concerning the late epidemic of typhus fever in the city above named. The disease sprang up in January, 1890, and ran for a period of seventy-five days. There were, in all, 155 cases received at the hospital; 67 were males, 75 females, and 13 were children under 12 years. The deaths were males 12 per cent., females 8 per cent., and children 15.5 per cent. Many of the males who died had a history of excessive drinking. Isolation was not practiced with any rigidity, and yet no other patients contracted the fever; only four of the sisters of mercy took the fever, and one other attendant, with no deaths among the latter. The excreta were removed or destroyed without delay, and this DR. FÜRBRINGER holds is the main point of prophylaxis whether in private or in hospital practice; in importance, it far outweighs all attempts at isolation. Forty-two of the patients, when convalescent, were sent to the convalescent homes, affiliated with the general hospital, and with good results. The above is a brief abstract from the Berlin letter to the London *Lancet*.

VARIOLA AND TUBERCULOSIS.

In the *British Medical Journal* of January 24, DR. LAWRENCE cites two instances of remarkable recovery from advanced stages of tuberculosis, seemingly as the result of virulent forms of small-pox. The patients, he says, were both young men in the last stages of pulmonary consumption. In each case there were large vomicae and the patients were much emaciated. Both the young men were attacked with virulent small-pox, with very high temperatures. They were supported with stimulants and a nourishing diet, and as they recovered from small-pox the pulmonary symptoms in each case began to disappear. They each made good recovery and are now in robust health. In these instances so well attested it becomes a question of deepest interest as to the manner in which such results were accomplished. Is there a small-pox bacillus which controls the situation, and is the weaker bacillus

of tuberculosis overpowered and driven out? or by reason of the new disease did the phagocytes take on increased activity and destroy the tuberculous bacilli? These questions raised by the writer are sure to attract attention and in our future bacteriological studies we must confront the question as to how tuberculosis is modified or controlled by small-pox, if such shall be found to be a fact.

EDITORIAL NOTES.

DISPUTED DIAGNOSIS.—At a recent monthly meeting of the Albany, (N. Y.) Health Board, Dr. Lewis Balch, the City Health Officer and Secretary of the State Board of Health, reported that during January 203 cases of typhoid fever had been reported to him, and that eighteen deaths had been caused by it. He, however, insisted that there was very little true typhoid fever among all the reported cases. Although admitting that it was more prevalent than usual, he said he did not know what to call the prevailing disease, but still inclined to the belief that defective drainage caused it.

Other physicians, however, hold that with but few exceptions the alleged cases of typhoid fever have occurred in a section of the city that is supplied with water from the Hudson River. As the fever has been prevalent in the cities up the river, which drain into it, the general belief is that the water has caused the disease.

TRAINED NURSING FOR THE POOR.—At Brooklyn, New York, there has been organized, on a small scale, a nursing department of the Red Cross Society. One district nurse has begun duty, and others will follow if the plan works satisfactorily; she gives her services free of all charge to those who are unable to employ a nurse. Her attendance upon the sick poor must be at the request of the attending physician, whose instructions are the invariable guide for her action.

THE EFFECTS OF KOCH'S LYMPH.—It is already evident that this liquid exerts a powerful pyrogenic influence, and is capable of exciting congestions throughout the whole system. It is stated by investigators that it is impossible to determine which organs shall most markedly feel its effects, and that in the same person different inoculations affect them differently. Diseased organs are most likely to suffer, but it is not

necessary that the affection shall be of tuberculous character. Organs apparently healthy may take on intense congestion. The lungs and bronchi are frequently found to be inflamed. Cases of myocarditis and endocarditis are reported in connection with the use of the "lymph." Swelling of the spleen, and albuminuria are reported as resulting from inoculation, and several cases of hæmaturia are reported as lasting from three to four days each. Evidently tuberculous subjects are not alone affected by the inoculation of the "lymph."

PASTEUR INSTITUTE AT NEW YORK.—The Directors of this institution held a meeting January 30, to receive the report of Dr. Gibier, regarding the proposed enlargement of his accommodations. The building now occupied, No. 178 West Tenth St., is most of the time over-crowded with patients, and almost daily applicants have to be turned away. The Directors voted to take steps to provide more commodious quarters without delay.

THE CHICAGO MEDICAL SOCIETY, whose action on the question of the removal of *THE JOURNAL* to Washington appears in this issue, has a membership of 494 members.

MEDICAL ITEMS.

A RECENT enumeration places the number of doctors in Vienna at 1,315, about one to every 1,000 of its inhabitants.

THE TUBERCLE BACILLUS seems to differ from the other bacteria from the fact that albumens alone are insufficient as nourishing media, but that the presence of glycerine and carbohydrates are essential to its growth.

THE DEATH OF SURGEON GENERAL BALFOUR, Honorary Physician to the Queen of England, occurred at Wimbledon Park January 17, at the age of 78 years. For many years, and nearly up to the time of his death, he had been a highly valued contributor to the columns of the *London Lancet*. He had held many important positions and was universally esteemed. The English journals have only words of sorrow and of profound respect for one who could remember Walter Scott, and Jeffrey and Allison, Chalmers, Wilson, Christison and, not least, John Brown, who wrote of "Rob and his Friend."

BACTERIOLOGICAL RESEARCH IN INDIA.—The

Provincial Medical Journal says we learn from the *Indian Medical Gazette* that Professor Lingard, who has arrived in India to take up the new office of bacteriological research at the Poona College of Science, has been appointed on the recommendation of Dr. Cook, after consulting the best authorities. The appointment is made on the basis of a three years' engagement, and the establishment of a new and fully equipped laboratory at Poona is an event of very considerable interest to the whole of India. Dr. Alfred Lingard has devoted many years to bacteriological science, and was a lecturer on the subject, both elementary and advanced, at the Birkbeck Institution, besides having also lectured on physiology. Before leaving Europe he visited the great Continental laboratories, including those of Berlin and Leipsic, for the purpose of inspecting the newest methods of research.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION held its first meeting, for organization, at the New York Academy of Medicine, on Thursday, January 22d. Officers were elected as follows: President, Dr. G. Betton Massey, of Philadelphia; vice-presidents, Dr. W. J. Morton and Dr. A. H. Goelet, of New York; secretary, Dr. W. H. Walling, of Philadelphia; treasurer, Dr. George H. Rohé, of Baltimore; councillors, Dr. Horatio R. Bigelow, of Philadelphia, Dr. F. H. Martin, of Chicago, Dr. W. F. Hutchinson, of Providence; Dr. Frederick Peterson, of New York, and Dr. C. D. Palmer, of Cincinnati.

THE AMSTERDAM SOCIETY OF NATURAL HISTORY AND MEDICINE celebrated the centenary of its foundation on October 15th, when the gold medal awarded every ten years to the investigator who has done the best microscopic work in that time was presented to Professor E. Haeckel, of Jena, for his researches on deep sea zoology.

THE NEW BUILDING OF THE MEDICAL DEPARTMENT OF THE ARKANSAS INDUSTRIAL UNIVERSITY.—On the 5th ult. the elegant and commodious new building of the medical department of the Arkansas Industrial University was occupied for the first time. There was no unusual ceremony attending the event, but it marks an event of more than ordinary importance to the medical profession of the Southwest. For twelve years the school has occupied a handsome building in Little Rock, on Second, between Louisiana

and Main Sts., but as the structure had been erected for other purposes, the faculty never felt quite comfortable in it, and long ago determined to build an edifice that would be a model of its kind—handsome, commodious, comfortable. The new college is on the corner of Second and Sherman streets, situated on a lot 50 × 100 feet, the building being 40 × 100, and three stories high. The first story has a large lecture hall capable of seating comfortably 250 students. In the rear of this are a number of rooms suitable for all the uses for which such apartments in a medical college are usually set apart. On the second story is the model amphitheatre, as capacious as the lower lecture room, and affording students every facility and comfort for witnessing surgical clinics and demonstrations of all kinds. Surrounding and in the rear of the operating amphitheatre are more rooms, well adapted for the uses for which each has been selected. On the third floor is one of the largest, best lighted, and most convenient dissecting-rooms to be found anywhere. The building is splendidly lighted and ventilated, supplied with water, gas and electricity, and has a fine elevation.

The lecture-room and amphitheatre are supplied with comfortable and substantial opera chairs. A contract has already been let for paving East Second street through its entire length. When this is completed the college will be pleasantly accessible by vehicle in the worst weather, as it is now by the street cars, which pass within one block. The patrons of the college have increased in numbers and intelligence every year, until at the present there are nearly a hundred students in attendance. The faculty have done their work conscientiously, quietly and well, and the thanks of the doctors in all this part of the country ought to be given them.—*Journal State Med. Soc. Arkansas.*

RESPONSIBILITIES OF THE RAILROAD SURGEON.—The services demanded by railway companies of their surgeons are most exacting. Railway injuries require immediate attention, whatever the needs of the surgeon's private patients may be. The injured employé is never backward in exacting services that cost him nothing. Under the impression that the company foots the bill he is determined to have all in the way of attention possible. The responsibilities assumed by the surgeon are of the gravest

nature. If the injured fails in making a case against the company, his next step is to commence action against the surgeon, if he can find some shyster of an attorney who can see his fees in the suit, and the cost of these suits must be borne by the surgeon, not the company. The order of skill required of the railway surgeon is of the highest. Of whom is demanded greater knowledge, experience and ingenuity than the surgeon called to attend the injured in a serious railway accident? Quick judgment, ready knowledge, a skilful, trained hand and eye are all requisite to one called upon to meet an emergency where injuries of every nature and extent are to be met with and their necessities relieved.—*Rail-road Age*.

IMPURE ICE AS A CAUSE OF DISEASE.—The State Board of Health of New York has come to the following conclusions as to the effects of impure ice in causing disease: "Ice formed in impure water has caused sickness; it may contain from 8 to 10 per cent. of organic matter dissolved in the water, and in addition a very large amount of organic matter that had been merely suspended or floating in it; it may contain living animals and plants ranging in size from visible worms down to the minutest spores, and the vitality of these organisms may be unaffected by freezing."

HOSPITALS FOR ALASKA.—Dr. Clarence Thwing, of Brooklyn, has accepted an invitation to establish one or more missionary hospitals in the Territory of Alaska, beginning at Sitka.

A BRITISH INSTITUTE OF PREVENTIVE MEDICINE.—Under the stimulus of the great discovery of Koch a kind of uprising has taken place in England in favor of an active physiological, pathological and bacteriological institute for research that shall be worthy to be called a national institution. At the head and front of this enterprise is Sir Joseph Lister, with numerous influential seconders, such as Sir Andrew Clark, Sir Spencer Wells, Sir George Paget, Sir James C. Brown, Jonathan Hutchinson, Ernest Hart, Professors Humphry Horsley, Watson Cheyne, Ray Lankester, Huxley, Sir Henry Roscoe and C. S. Roy. The exact nature and scope of the work carried on in the institute will necessarily depend on the liberality of the public subscribers to the fund or on the support granted by the government; but if possible it is proposed that the new

institute shall be on the same general plan as the Institut Pasteur, which is also the plan upon which the new institute for Koch is in process of building at Berlin; that is it will not be exclusively for research on the infective diseases of man and animals, but also for providing inoculant material for such diseases as tuberculosis, hydrophobia or anthrax. The Executive Committee has already sent their representative, Mr. E. H. Hankin, to Berlin for the purpose of learning directly from Koch the method of preparing the antituberculous lymph; Mr. Hankin has already made an enviable name for himself by his original work on the means of conferring immunity against anthrax. He is already at work at Koch's laboratory.

THE ELECTRIC LIGHT.—It is currently reported that the Queen of England has discontinued the use of the electric light in her private apartments, on the ground that it is injurious to the eyes. We are inclined to believe that this is founded on some misapprehension, for when properly protected by opal glass or by shades, the electric light can be toned down to any desired extent, and it certainly possesses many advantages over gas. It is more easily lighted and extinguished, less dangerous, more cleanly, free from odor, gives off little heat, does not spoil the air, is quite as steady, and, so far as we can see, has only one drawback—that, namely, of being more expensive.

THE IMPERIAL RUSSIAN INSTITUTE OF PREVENTIVE MEDICINE.—The Institute of Experimental Medicine, founded in St. Petersburg by Prince Alexander Petrovitch, of Oldenburg, at a personal cost of about 200,000 roubles (£23,000), was formally opened and handed over to the Imperial Government on December 20. The ceremony, which partook largely of a religious character, was attended by the Ambassadors, several members of the Czar's family, and by M. Chamberland, representing M. Pasteur; Dr. Pfuhl, representing Professor Robert Koch; and Mr. Watson Cheyne, representing Sir Joseph Lister. The Prince of Oldenburg was thanked by imperial rescript and appointed Governor of the Institute, and the three delegates having delivered brief addresses each in his own tongue, the proceedings terminated with an entertainment given at the Oldenburg Palace.

TOPICS OF THE WEEK.

THE ETHICS OF EXPERIMENTATION UPON LIVING ANIMALS.

Cruelty may be defined as the infliction of suffering without sufficient reason. To be humane is an expression of the highest type of manhood. And surely less inhumanity can be traced through the records of science, than can be found in the annals of either religion or philosophy. Who is more altruistic, more practically philanthropic, than a physician of the better class in his daily intercourse with suffering mankind? Yet these men are periodically assailed by well-meaning if not well-informed persons, and stigmatized as wantonly cruel for performing what, in the majority of instances, are but painless operations upon otherwise useless animals. An action is good, bad or indifferent, in direct ratio to its consequences. Now, those best able to judge admit that vivisection furthers the progress of scientific investigation, and, therefore, concede its defensibility. At the same time, when merely a matter of idle curiosity, it is held to be most reprehensible. Frequent repetition of painless experiments, however, finds its justification in the necessity for objective instruction. No person will deny that science has conferred incalculable good upon mankind. Nay, more, the burdens of the lower animals are daily being lifted by this modern offspring of the human intellect. Were it not possible to specify an individual discovery directly due to vivisection, nevertheless the fact would remain that the crucial test of all hypotheses is experimentation. And it was not until verification became the anchor of all research that knowledge ceased to drift hither and thither upon the treacherous sea of speculation. But one of the most important steps in the advancement of physiological inquiry, the discovery of the inhibitory function of the pneumogastric nerve by Weber, was the result of an experiment upon a living animal, and it could have been demonstrated in no other manner. Moreover, this same method, in the hands of Pasteur, has bestowed sufficient benefit upon the animals themselves to more than compensate for the suffering inflicted upon them in the interest of science.

Unbridled Nature is the personification of cruelty, and the few victims of scientific investigation that are sacrificed for the welfare of man are as nothing compared to the multitude that meet with apparently purposeless destruction. Certain facts are beyond the reach of the physiologist, except through these experiments; but since, in many instances, pain is a disturbing element, its abolition may be relied upon from this, if from no higher motive. The highest order of man feels unwilling to inflict needless suffering upon any living creature. How much right we have to the lives of the lower animals remains an open question. And though, at this stage of our civilization, it seems to be the general opinion, at least as expressed by man, that the animal shall be slain for our needs, still the causing of unnecessary pain is justly reprobated. Nearly all vivisections, assuredly in our country, are performed after the animals have been rendered insensible; but where sentiment

blindly forms convictions, reason appears to hold no sway, hence, despite the facts of the case, these perennial crusades against a very necessary method of experimentation. Ultra-humanitarianism in its opposition to scientific advancement is liable to lapse into insipid sentimentality.—Dr. Stephen S. Burt in *The Post-Graduate*.

THE CURVE OF HEALTH.

Oliver Wendell Holmes says in the *Atlantic Monthly*: Let me tell you one thing. I think if patients and physicians were in the habit of recognizing the fact that I am going to mention both would be gainers. The law I refer to must be familiar to all observing physicians, and to all intelligent persons who have observed their own bodily and mental conditions. This is, the curve of health. It is a mistake to suppose that the normal state of health is represented by a straight horizontal line. Independently of the well-known causes which raise or depress the standard of vitality, there seems to be—I think I may venture to say there is—a rhythmic undulation in the flow of the vital force. The "dynamo" which furnishes the working powers of consciousness and action has its annual, its monthly, its diurnal waves, even its momentary ripples, in the current it furnishes. There are greater and lesser curves in the movement of every day's life—a series of ascending and descending movements, a periodicity depending on the very nature of the force at work in the living organism. Thus we have our good seasons and our bad seasons, our good days and our bad days, climbing and descending in long or short undulations, which I have called the curve of health. From this fact springs a great proportion of the errors of medical practice. On it are based the delusions of the various shadowy systems which impose themselves on the ignorant and half-learned public, as brauches or "schools" of science. A remedy taken at the time of the ascent in the curve of health is found successful. The same remedy taken while the curve is in its downward movement proves a failure. So long as this biological law exists so long the charlatan will keep his hold on the ignorant public. So long as it exists the wisest practitioner will be liable to deceive himself about the effect of what he calls, and loves to think are, his remedies. Long-continued and sagacious observation will, to some extent, undeceive him; but were it not for the happy illusion that his useless or even deleterious drugs were doing good service many a practitioner would give up his calling for one in which he could be more certain that he was really doing good to the subjects of his professional dealings.

BARON HAUSSMANN.

The death of Baron Haussmann, recorded recently, is not only a political event, but concerns all who are interested in the cause of sanitary reform. From 1853 to 1870 Baron Haussmann held the reins of office as Prefect of the Seine; and, in those days of absolutism, there was no popular control to check his actions. The Emperor Napoleon III gave him a free hand, and he set to work, regardless of expense, to regenerate Paris. Broad boulevards were cut right through overcrowded districts,

Light and air were let in upon quarters where epidemic diseases had become endemic. So mighty were the changes wrought, that a new word had to be coined to describe the work, and all Europe talked of the Haussmannization of Paris. The great changes effected have not, however, proved an unmixed blessing. The financial situation they created supplied M. Jules Ferry with the materials for the pamphlet which first brought him into political fame, and which he humorously entitled "Les Comptes Fantastiques de M. Haussmann." The debts then incurred are now so great a burden that they prevent the realization of sanitary reforms more urgent than those achieved by Baron Haussmann. It is not for us to criticise the artistic faults and merits of the new Paris Baron Haussmann built. The æsthetic side of the question is not our phase of the subject. Though opinions widely differ among artists, sanitarians can only mete praise for the giving of lungs to the town by creating the beauties and attractions of the Bois de Boulogne and the Buttes de Chaumont, etc. The splendid markets, slaughter-houses, and similar buildings of public utility Baron Haussmann caused to be built, have greatly contributed to the improvement of public health. But, on the other hand, there can be no doubt as to the evil tendency of sacrificing to external appearances financial resources that should be devoted to internal improvements. The magnificent dwellings raised on the new boulevards are constructed in defiance of all laws of hygiene, while but little was done to improve the sanitary condition of the old houses left standing. Judged by external appearances, nothing can be more vast, more splendid and sweeping than the new thoroughfares pierced by Baron Haussmann. The eye is fascinated, the imagination exalted, by these changes, realized so rapidly as to suggest the wave of a magician's wand rather than the slow evolution of municipal progress. But there is a theatrical element about this that fails to satisfy the scientific mind. The worse consequence, however, was the spread of Haussmannization to provincial towns, and especially to health resorts. For instance, at such towns as Cannes, Nice, etc., the public money was freely spent to cut broad boulevards, to raise handsome theatres and casinos, but the sewers were left in a deplorable condition, and domestic drainage utterly neglected. To the credit of the Third Republic it must be acknowledged that more interest is now taken in real sanitary improvements and less is expended on mere external show. Nevertheless, and in spite of all and numerous criticisms to which Baron Haussmann exposed himself, he gave an immense impetus to the cause of municipal progress. All the errors, the extravagances committed, the political motives that may have inspired some of the improvements initiated by Baron Haussmann, will not suffice to efface the glorious record of great works achieved by the late Imperialist Prefect of the Seine.—*Lancet*.

PROGRESS OF CREMATION IN ENGLAND.

The Cremation Society of England has now existed seventeen years. The crematorium and the building at Woking have been thoroughly tested, and are in every

respect efficient and commodious. The appearance they present to the eye—a combination of early Gothic architecture, extremely well executed, surrounded by beautiful trees and shrubs—is, especially in summer time, picturesque and pleasing. During the past year no fewer than fifty-four bodies have been cremated. Among them may be named the late James Nasmyth, the distinguished engineer, a generous supporter of the Society; the well-known Rev. J. MacNaught, of Liverpool; and the late Baron Huddleston, on which last occasion the service, performed in the Society's chapel by the Rector of Ascot, was attended by a distinguished assembly of relatives and friends. The Society is earnestly asking for support to complete their plan of erecting cloisters for the reception of cinerary urns. For this, and also for the purpose of promoting the interest of cremation, by publishing, lecturing, etc., the Council of the Society earnestly appeals to the public for donations and annual subscriptions. It may be as well to add that a payment of ten guineas constitutes the donor a member for life, and entitles him to be cremated without charge after death. Since the beginning of the present year, 1891, the remains of Kinglake, the historian, and of his Grace the Duke of Bedford, K.G., have been cremated.—*British Medical Journal*.

DR. KOCH.

Dr. Koch is 47 years old. After graduating at the University of Göttingen, he commenced practice in a little village near Hanover, but failed to make a living. He then tried Rackwitz, a small malarious town in Prussian Poland, with no better results. Finally he settled in Wollstein, and in 1880 attracted much attention by his analyses and medical testimony in the famous Speichert poisoning case. In 1882 he discovered the bacillus of tuberculosis, and in 1883 the germ of cholera while acting as the head of the medical commission sent by the German Government to Egypt and India to study the causes and prevention of cholera. On his return to Germany he received an honorarium of 100,000 marks, the rank of Privy Councillor, and the Rectorship of the Imperial Institute of Hygiene.

DEATH AFTER INOCULATION FOR LUPUS

Dr. Janisch reports in the *Wiener klinische Wochenschrift*, No. 50, a case of death in a girl of 17, after a single injection of two milligrams of Koch's lymph. Local reaction had been very prompt. The injection was made at nine o'clock in the morning, and by three in the afternoon the region of the affected portion of the face was swollen, turgid, and surrounded by a bright red inflammatory zone of the width of the finger. The upper lip was livid. These local manifestations became more pronounced, and by the next morning the swelling had become more diffuse. The bright red had given place to a livid color, and in many places yellow crusts were noticeable. Dyspnoea came on, weakness of the heart, and death on the same evening, thirty-six hours after the injection.—*Medical Record*.

PRACTICAL NOTES

CURE FOR MORPHINISM.

W. I. Cattel during the past six years has had excellent success with the following formula: A mixture from which the patient is easily weaned, when the opiate is withdrawn (*Am. Pract.*).

Morphia sulphate or tincture of opium, q. s.
Fluid extract viburnum prunifolium, $\frac{1}{2}$ oz.
Elixir of ammonium valerianate, 3 oz.
Elixir sodium bromide (5 grains to the dr.).
q. s. to make 6 oz.

Dose, a teaspoonful when required. In smell and taste this mixture is truly diabolical, and many patients are glad to give up the horrible stuff long before the opiate is entirely excluded.

EPILEPTIC MIXTURE.

R. Potass. bromidi, } $\bar{a}\bar{a}$ gr. x.
Sodii bromidi, }
Ammonii bromid., gr. x.
Sodii bicarb., gr. ij.
Liq. potassii arsenit., m. j.
Aqua, ad. $\bar{5}$ j. \bar{m} j.
S. Dose, $\bar{5}$ j.

—*Phar. Record.*

INHALATION IN WHOOPING COUGH.

R. Thymolis, gr. xx.
Acid, carbolic, }
Ol. sassafras, } $\bar{a}\bar{a}$, f $\bar{5}$ ij.
Ol. eucalypti }
Pice liquidæ }
Ol. terebinthinæ }
Aetheris, f $\bar{5}$ iv.
Alcoholis, q. s. ad. f $\bar{5}$ iij. \bar{m} j.

Put about 30 drops upon a pad of such a size as to be conveniently hung around the child's neck, renewing the application every two or three hours.

In severe cases the inhalation treatment is supplemented by the internal administration of

R. Acid, carbolic grs. iij.
Sodii bromidi gr. i.
Tinct. belladonnæ gtt. xx.
Glycerini, f $\bar{5}$ iij.
Aqua, q. s. ad. f $\bar{5}$ ij. \bar{m} j.

Sig. Teaspoonful for a child, 3 or 4 years of age, occasionally.

—Dr. Beall, *Daniel's Med. Jour.*

BISMUTH TREATMENT FOR BURNS.

Dr. Bardeleben, of Berlin, recommends (*Therapeutic Gazette*, November, 1890), the following treatment based on an extensive experience: Wash the burn with a 2 or 3 per cent. solution of carbolic acid, or a 3 in 1,000 solution of salicylic acid. A little later open the blisters and cover the entire surface with bismuth subnitrate in very fine powder, and over this a thin layer of absorbent cotton. Renew the dressing as often as needed, which means to keep the parts dry and

free from the discharges of the wound. If the burn is very extensive, an ointment of bismuth is sometimes substituted for the powder.

ECZEMA.

R. Zinci oxidi, 1 ounce.
Glycerinæ, 2 ounces.
Mucilag. acacia, $\bar{a}\bar{a}$, 2 ounces. \bar{m} j.

In extensive patches of eczema this paste is very agreeable. If itching is severe 1 per cent. of carbolic acid may be added.

—*Courier of Medicine.*

AN OINTMENT FOR CARBUNCLE.

R. Ichthyol, 1 drachm.
Camphorated lard, $\frac{1}{2}$ ounce. \bar{m} j.

This salve is to be applied three times a day around the inflamed area, and if the surface has become broken the tissues are to be touched with nitrate of silver. It is said that the ichthyol diminishes pain, favors the resolution of the swelling, and aids in cicatrization.—*Medical News.*

PEROXIDE OF HYDROGEN IN CUTANEOUS THERAPEUTICS.

Unna is quoted by the *Canadian Pharmaceutical Journal*, as recommending the treatment of comedones by the following prescription:

R. Sol. hydrogen peroxide
Vaseline, of each 2 ounces.
Lanolin, 1 ounce.
Acetic acid, 1 drachm.
Mix thoroughly and perfume as desired.

DELIRIUM TREMENS MIXTURE.

R. Potass. bromid. } $\bar{a}\bar{a}$ gr. xv.
Sodii bromid. }
Chloral, hydrat., gr. x.
Tinct. zingiberis, m. x.
Tinct. capsici, m. v.
Sp. ammonii arom., $\bar{5}$ j.
Aqua, q. s. ad. $\bar{5}$ ij. \bar{m} j.
S. Dose, $\bar{5}$ ij.

—*Phar. Record.*

VOMITING IN PREGNANCY.

R. Bicarb. soda, grains 3.
Potassium bromide, grains 2.
Sodium bromide, grains 2.
Ammonium bromide, grains 1.
Syrup. aurantii carb., grains 30.
Aque distillata, grains 120. \bar{m} j.
S. Tablespoonful every two hours until relieved.

—Dr. Wertheimer.

INDIGESTION WITH FLATULENCE.

R. Bismuthi subnit.
Sodium bicarb.
Sacch. alba.
Pulv. acacia.
Pulv. zincibri, $\bar{a}\bar{a}$ $\bar{5}$ j. \bar{m} j.
S. Teaspoonful of the powder dissolved in a little water after eating.

SOCIETY PROCEEDINGS.

Gynecological Society of Boston.

The 215th regular meeting of the Gynecological Society of Boston was held at No. 19 Boylston Place, on Thursday, Oct. 9, 1890, at 4 o'clock P.M., with the President, W. SYMINGTON BROWN, M.D., in the Chair.

Thomas P. Jefferson, M.D., of Lowell, Mass., was elected to active membership.

Joseph Eastman, M.D., of Indianapolis, Ind., was elected to corresponding membership.

DR. HENRY O. MARCY read a paper entitled

IN WHAT CLASS OF WOUNDS SHALL WE USE DRAINAGE? AND THE PRESENT POSITION OF ANTISEPTIC SURGERY.

(See page 229.)

DR. FRANK L. BURT said it is very evident that whether we drain or not depends altogether on the case. We cannot treat all cases after the same method, yet it is desirable that we find a good a method as possible and use it till we find one decidedly better. There is no doubt that many cases are drained which should rather be curetted thoroughly, so as to remove all diseased tissue and the surfaces be brought together by subcutaneous suturing so as to get healing by first intention. Tissue around a fistulous tract should be removed and treated in this manner. Some abscesses, fistulas, tumors of the breast, operations on hernia, etc., can be treated in this way without drainage. Care should be taken against too much tension on the skin and draining the sutures so tight as to strangle the tissues. Oozing of blood underneath the skin does not need to be removed by drainage if it is from a surface which is aseptic. It is not always necessary to provide for clots of blood by drainage as, if aseptic, they need not cause sepsis and may organize or be absorbed. Many who formerly used three or four tubes in breast cases now use only one. In my later cases I have used no drainage and have been better satisfied with the results. I advise closure of the surface entirely as I have described before. In abdominal surgery we will find that some cases require drainage while others do not. Some surgeons do not drain at present as often and in such cases as in the past.

If there are many adhesions giving rise to a considerable oozing, drainage may be necessary. Also bad cases of pyosalpinx or abdominal abscess may cause the operator to feel easier if drained. If blood oozes into the abdominal cavity or pus enters it, as thorough a removal as possible by means of absorption had better be done first.

There are cases which seem to require flushing with hot water. In case this is done, care should

be taken lest some of the pus or débris which is localized should be washed up among coils of intestines causing mere points of sepsis. When there is pus or much blood so that flushing is required, drainage had better be used. Glass or rubber tubes are serviceable. The fluid which accumulates should be removed frequently by absorption, cotton on a wire being introduced into the tube, or if a rubber tube is used, which seems to me preferable, the contents can be sucked up with a syringe.

It may be supposed that the abdominal wounds would require drainage as much as any, but if closed properly, the method of suturing in layers with animal ligature being the best, no drain is necessary and the surfaces adhere perfectly. It is very evident that a great advance has been made of late in respect to this subject of drainage.

DR. CHAS. K. CUTTER, of Charlestown, a guest of the society, said that in his opinion, locality has a great influence on the presence of germs, *e.g.*, in the poorer quarters of the cities wounds do not do as well as in the country where there is less dust and other material floating about in the air. Although he regards cleanliness as an essential feature, he could not help recalling operations in which he had formerly assisted a Charlestown physician who had sometimes opened the abdominal cavity without even taking the natural precautions of washing his hands and no antiseptics were used. He remembered one operation in which four assisting physicians had successively introduced their fingers into the wound to establish a diagnosis and the patient recovered. He always uses drainage after opening a mammary abscess. He referred to the remarkable antiseptic properties of Merck's new substance, pyoktanin, and spoke of several instances in which he had seen it successfully applied.

DR. GEO. W. JONES said that he had been much interested in the paper, and that he agreed with the ideas of Dr. Marcy on the matter of drainage as expressed therein.

DR. A. L. NORRIS said that he had of late used drainage very little indeed, and if he has had recourse to anything he has used for this purpose a few strands of catgut ligature. He referred to the operations which he had seen Mr. Tait perform in Berlin.

DR. C. E. PRIOR said that he had watched with much interest the wordy war which has been waged over antiseptics. He believes that the followers of both Tait and Lister are on the same ground however much they may seem to differ. Both cleanliness and excellent surgical skill are essential to good results.

DR. JAMES P. ELLIOTT believes that both cleanliness and good judgment are necessary to obtain union by first intention.

DR. C. W. STEVENS thinks that the statement

that all abscesses should be drained is too broad. Large ones should be drained, but small ones should not. It is possible to withdraw the pus by means of a hypodermic needle, after which the cavity can be washed out with a solution of corrosive sublimate, 1 to 4000, and then with iodoform emulsion.

DR. A. E. McDONALD recently treated two abscesses on the same child. The one treated with drainage did better than the one treated without drainage.

DR. H. C. WHITE said that Dr. Marcy gives his opinions boldly and clearly, and that his success in treating wounds is due to the same boldness and clearness, as exemplified by the closure layer by layer, even the edges of the skin being accurately approximated. There can hardly be hemorrhage possible when the operation is done in this way. Perfect coaptation just tight enough and not too tight is important. The discussion between Tait and Lister is now chiefly of words and not of opinions. Both believe in clean aseptic wounds. Marcy has made advances and got ahead of his teacher, Mr. Lister.

DR. W. S. BROWN said that Sir Joseph Lister's modesty and thorough honesty is admirable.

DR. MARCY in closing the discussion said that he had seen much of these men (Tait and Lister) during the past summer. They have agreed to disagree. Tait has fought every one who has disagreed with him. Dr. M. believes that Tait is now broadening in spirit.

PATHOLOGICAL SPECIMENS.

DR. BURT presented a specimen of double ovarian tumors. The case was of special interest because of the difficulty of diagnosis. It had been considered for several months as a case of version which did not improve under treatment by means of applications, tampons, pessaries, etc. The uterus was found rather high up, toward the right and forward. The left ovary could be outlined, enlarged to the size of an egg, and somewhat prolapsed. No ovary could be detected on the right side. A mass, the size of a fetal head, was found behind, below and to the left of the uterus, seeming to be in the left broad ligament. This large mass was the right ovary with cyst, which, being displaced had become adherent so as to appear to be on the left side. The relief after operation was as usually experienced in such cases.

DR. IGNACIO MARTINEZ, of Laredo, Texas, at one time a general in the Mexican Army, a political exile, a great traveler and an author of ability, while making the rounds among his patients on the morning of February 3, was waylaid by two mounted men near the Mexican National Depot and shot to death. The assassins, supposed to have come from Mexico, escaped.

SPECIAL CORRESPONDENCE.

Hypnotism—Facts and Reports of Cases in the Early Experience of one of its Former Practitioners.

To the Editor:—Several articles have of late appeared in THE JOURNAL upon hypnotism, and there seems to be a general interest among the profession upon this subject. Though a permanent member of the American Medical Association for many years, and an attentive reader of every number of THE JOURNAL, I have never contributed anything to its columns. I come forward now and offer this communication with great reluctance and only because I deem it a duty to my professional brethren, to give them some benefit of my investigations and experience in the therapeutic application of this potent and subtle agent.

In the year 1841, while an under graduate and a hospital attendant, in the ward where I was employed one of the patients was a sea captain, whose home was in an obscure New England town. This captain conceived a strong attachment for me, and when ready to leave for home, insisted that I should accompany him. Being weary with several months' close confinement, I obtained leave of absence and went. Once there, he dubbed me "Doctor" and introduced me as such to his neighbors and some three or four practicing physicians in his own and surrounding hamlets.

I was soon called upon to treat the sick and was compelled to engage in practice, or to ignominiously desert my friend and forego his hospitality. I chose the former. This I did by the advice and promised aid of one of the most skilful and popular physicians in that neighborhood.

This physician, in addition to the usual drug treatment, practiced hypnotism, or as it was then called, mesmerism, or animal magnetism. Becoming close friends, we spent much time together, visiting patients and receiving and imparting information. One of the most fruitful subjects of our discussion was animal magnetism, and he finally persuaded me to engage in experimental examination of it.

By his instructions and assistance, I was soon not only practicing medicine but mesmerism as well. For five years that followed I was one of the most industrious practitioners of the healing art in that section of the country. Then, my trusted friend, teacher, and confederate suddenly departed between two days, leaving a wife and children unprovided for, but taking with him one of his female mesmeric subjects. This occurrence was an overwhelming blow to me, and gathering up my available means departed; attended medical college, graduated and wended my way westward, and have since pursued the regular practice of medicine. Since that time I have never publically practiced, or advocated hypnotism under any of its aspects or names.

This narrative seems a necessary introduction to what I wish to contribute for the benefit of those who are interested in, and are now investigating modern hypnotism.

Had I made and preserved full notes of all the cases I treated by this agent, in those five fruitful years, I would be able now to give many interesting and instructive facts and cases that, in the lapse of nearly half a century, have either entirely faded from my memory, or become so much obscured as to render an accurate account of them now impossible. Many of these cases, their treatment and the results are, however, indelibly impressed upon my memory; and from these I can bring a sufficient variety and number to illustrate the more important and prominent qualities of therapeutical hypnotism.

Case 1.—During the prevalence of an epidemic of malignant dysentery, a lad of 9 years of age affected with

this malady had been given up as incurable by physician and family and not expected to survive the ensuing night. The boy insisted that I should be called, and on reaching his bedside and making a careful examination, I told him if he could yield to me and sleep, I thought he would recover. Placing one hand on his abdomen and the other on his head, I exerted all my will power in the effort to hypnotize him. The termina soon grew less, restlessness abated and in half an hour he was hypnotized. I sat by his bed and kept him asleep for six hours. On awaking a bilious evacuation followed, with neither blood nor mucus. I then again hypnotized him and kept him asleep the whole night. He awoke in the morning more decidedly convalescent, rapidly recovered with no medication, except some placebos and proper diet, and is living to-day, a man of wealth and influence in both Church and State.

Case 2.—A young lady, about 19 years of age, had been under treatment for more than a year, by two good physicians, and was considered incurable. Her disease was a very severe case of bronchitis, thought to be of tubercle origin and her lungs already involved. She coughed almost incessantly while awake and did not sleep to exceed thirty minutes at a time, on this account; was expectorating freely and rapidly emaciating. At this stage of her case I was called in to make a trial of hypnosis. After a few sittings she was profoundly hypnotized—the constant cough and expectoration greatly interfering in its accomplishment. I kept her asleep some two hours at first, during which there was neither cough or expectoration. Gave her daily sittings gradually prolonging the period of sleep, then leaving her in that condition with instructions to wake at a certain time, which she always did. Then I changed the sittings to the hour of bedtime and told her to sleep till morning. While this treatment was progressing there was a constant daily improvement in all her symptoms. At length she was so much under control that she would obey me by falling asleep at a future hour and remaining in it as long as directed. Finally she would fall asleep and wake on specified times, each day, for three days in succession, without being visited, which greatly lightened my labors. In less than three months a perfect cure was effected in this aggravated case, without any medication; and I may add that more than thirty years afterward I saw this patient with husband and grown children, a perfect picture of health, and was assured by her that she had not in all these years suffered from any disease whatever.

Case 3.—A middle aged man, far advanced in pulmonary tuberculosis, applied to me for hypnotic treatment. On examination I told him there was no cure known for his case. He replied that he was fully aware of that, but from what he had learned, thought his condition and sufferings might be ameliorated by hypnosis. I found him an easy subject and hypnotized him daily for several weeks, and every sitting improved his condition. The small hæmorrhages, of which he had had many at short intervals, ceased. The amount of pus expectorated decreased; night sweats and diarrhœa disappeared; digestion improved and he materially increased in flesh and strength. I found the treatment of this case very exhausting to me and a severe drain upon my vitality. I lost flesh and strength and other symptoms alarmed me and caused me to suspend my hypnotic efforts in his behalf. With some medication, he went on improving for a time, and he thought he was recovering. Several months afterwards, while fishing in a skiff, he hooked a very large one, and in the effort to capture it a violent hæmorrhage came on and he died before his companion could pull the craft to land.

Case 4.—A married woman, about 30 years of age, after a long seige of house-cleaning, received a severe mental shock. She was seized with a sudden and severe chill followed by fever and delirium. The next day she was violent and unmanageable and I was called. It was then a case of acute mania. I had hypnotized her some years

before, and after a persistent effort finally engaged her attention and soon had her under hypnotic influence, in which condition she was put to bed and kept in it under observation for fifteen hours; all this time remaining perfectly quiet. Her temperature, pulse and respirations gradually returned to normal. Before awakening she was told and impressed that she must take absolute rest for a week, and only think of the painful occurrence that gave her the shock as something that happened long ago. After she awoke she remained quiet and self-possessed, and made a speedy and complete recovery without any medication.

Other cases might be given, but these will suffice for the present.

This narrative and report of cases are but an introduction or preface to the subject, as it appears to me. The field opens broad and fruitful and will amply repay the careful and thorough explorer. If those members of the profession who are interested in this subject desire it, more may be said, in which the principles, modes of application, the possibilities of its therapeutic employment, and the moral and physical responsibilities resting upon those who would practice it, will be discussed.

M. F. BASSETT, M.D.

Quincy, Ill.

Chronic Acid Treatment of Chronic Enlargements of the Tonsils.

To the Editor:—Miss G. M., æt. 17, very small in stature, been delicate for several years. Tonsils very large, caused breathing through the mouth nearly entirely. They pressed against each other closely. Made a puncture with a small bistoury in one tonsil, then with a regular acid probe I heated or melted chronic acid crystals over a gas jet, until I had a nice smooth hall about the size of a small pea, which I carried into the punctured tonsil. Letting it remain a very short time after taking the probe out, I took up all excess of acid about the tonsil with absorbent cotton. The third day the patient presented herself with a large, deep slough from the centre of tonsil. After that healed I repeated the operation in the other tonsil, and continued until I had reduced them three-fourths their size. I have used this remedy in six or eight equally severe cases, and with equally good results. Let us know if others have had a like experience. Mine were cases where the patients would not submit to excision. As there was no pain with this mode of treatment, it may commend itself to others where surgical procedure is denied.

F. E. YOAKUM, M.D.

Shreveport, La.

Shall The Journal be Removed to Washington?

THE ACTION OF THE CHICAGO MEDICAL SOCIETY.

To the Editor:—At the January 19 meeting of the Chicago Medical Society a committee was appointed to consider the matter of removing THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from its present location. After considering the matter the committee reported at the February 2 meeting and recommended the passage of the following resolutions, which were unanimously adopted:

Resolved, That the Chicago Medical Society as a body is opposed to the removal of THE ASSOCIATION JOURNAL, deeming that such change is unnecessary at the present time and contrary to the best interests of THE JOURNAL and the Association, and be it

Resolved, That the delegates from this Society to the forthcoming meeting of the American Medical Association be and are hereby instructed to oppose such removal, and be it further

Resolved, That the committee appointed at the last meeting be continued to take such action as they deem wise, in furthering the object of this resolution, also that a copy of these resolutions be spread upon the records, and transmitted to the medical press of the country.

J. C. HOAG, M.D., Sec'y.

Chicago, Feb. 6, 1891.

To the Editor:—I am of the opinion that there is no good reason for moving THE JOURNAL office. I think Chicago is the most suitable place for it. I vote for it to remain in Chicago, for that to be its permanent home.

H. H. DARR, M.D.

Caldwell, Texas, Jan. 30, 1891.

To the Editor:—I prefer to see THE JOURNAL continue its publication in Chicago. Besides the superior facilities of communication with all parts of the country, the ambition to excel all competing cities in laudable enterprises that give prosperity to a city, which prevails there, may sharpen editorial energy to make it the best medical journal in the world.

WM. LOMAX, M.D.

Marion, Ind., Feb. 2, 1891.

To the Editor:—I prefer Chicago as the location and home of our journal for one good reason, in addition to the many others already stated by numerous correspondents. I believe the Eastern members of our profession are tainted with heretical opinions as to the propriety and practicability of our "Code of Medical Ethics" as a guide to the highest honor and truest success of the profession. Witness the heterodoxy through which we have only recently passed and fresh in the minds of all.

This reflection is not meant to impugn the characters of Eastern members generally—simply as a statement of a deplorable fact, as to a few in high places.

GUSTAVUS S. FRANKLIN, A.M., M.D.

Chillicothe, O., Feb. 3, 1891.

To the Editor:—Though living in the East and wishing it to prosper; yet I wish to be understood as advocating Chicago as the place for THE JOURNAL. 1. Because of its central location. 2. Because it is a great medical centre. 3. Because the next decade will witness it the largest city in America. 4. Because THE JOURNAL is ably edited in Chicago and is prosperous, not political nor prejudicial to sections.

C. G. CANNADAY, M.D.

23 Salem ave., Roanoke, Va., Feb. 3, 1891.

To the Editor:—I do not think the time has come, or in fact, ever will come, when our journal should be removed from Chicago. This child of our creation was born under trying circumstances, and I hope it has passed all the straits of its birth, and now at an age well on its feet, walking alone. Chicago, I believe, should be its home.

THOMAS H. BRIGGS, M.D.

Battle Creek, Mich., Feb. 5, 1891.

To the Editor:—In the absence of any sufficient reason for changing the publication office of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from Chicago to Washington, I wish to record my vote in favor of its present location.

J. W. FERGUSON, M.D.

Canaan, O., Feb. 7, 1891.

To the Editor:—I am greatly surprised at the letter of Dr. Solis-Cohen in THE JOURNAL of January 31. I admit that THE JOURNAL has not reached the standard of excellence which the profession have a right to expect. I am, however, satisfied that "sectional prejudice" and personal ambition in Philadelphia, New York and Washington, have had not a little to do with this lowering of the standard. Dr. Solis-Cohen makes the assertion that the removal to Washington would overcome all the present difficulties.

Washington is not, and cannot be a centre for this country. Even the political conventions are not held there, and the only thing that preserves it as the National Capital is the amount of money expended in permanent government improvements.

Perhaps THE JOURNAL would not in Washington be debased to a "local" organ, but what assurance would we have that it would not be practically debased to the uses of some one service of the government. For example: With the official organ of the profession under control how easily might a Marine-Hospital surgeon annihilate a National Board of Health. For one I prefer a "local" medical journal to the tool of a political ring.

I am opposed to removal of THE JOURNAL:

1. Because such removal of plant would be expensive.
2. Because such removal would result in loss of advertising patronage.
3. Because there is not the slightest assurance that such removal would improve the personnel of the editorial board.
4. Because such removal would not increase facilities for good work.
5. Because such removal would cause loss of subscribers.
6. Because such removal would make THE JOURNAL a local journal, out of sympathy with the profession of the country.

The East has three good medical weeklies, the *Medical News*, the *New York Medical Journal*, and the *Medical Record*. The West has none. The removal of THE JOURNAL to Washington would immediately result in the establishment of a high grade Chicago weekly, which would largely decrease the advertising and subscription patronage of THE JOURNAL.

Permit me to suggest that THE JOURNAL would be more improved by having an editor for each Section of the Association, than by its removal. These sectional editors should take turn in getting out successive numbers of THE JOURNAL, under the supervision of the Editor-in-Chief, until the work of the meeting is finished, and thereafter these sectional editors should have supervision of papers in their special departments. If, for example, at a sectional meeting there are five papers read on peritonitis, publish them together, followed by discussion, as is done in the *British Medical Journal*.

HENRY B. HEMENWAY, M.D.

Evanston, Ill., Feb. 9, 1891.

To the Editor:—I am profoundly opposed to the removal of THE JOURNAL. Chicago is central and has talent to edit the same as well as Washington, Boston or New York.

A. G. PORTER, M.D.

Lebanon, Ind., Feb. 9, 1891.

To the Editor:—As a member of the A. M. A. I am decidedly opposed to the removal of THE JOURNAL to Washington, or to any other point at present. I am also opposed to locating our annual meeting at any one point. By all means let the Association remain National in character, and let it itinerate, gathering new members from all parts of our country. To permanently locate the annual meeting somewhere in the East or South, would be practically inviting our brethren on the Pacific slope to withdraw, which they would probably do.

I vote to let THE JOURNAL remain in Chicago until after the Columbian exposition at least, and let special inducements be offered all visiting physicians in good standing to visit the editor and subscribe for THE JOURNAL.

I have no fault to find with the present, or past, management of THE JOURNAL.

C. N. UDELL, M.D.

Blakesburg, Iowa, Feb. 9, 1891.

To the Editor:—The fact that Washington City, with all her macroscopic advantages, has never produced a medical journal "National" either in character or reputation, is the very reason why she is just the place which can do it. Every process attending the production of a journal, composing, printing, sewing, etc., is directly

the result of bacterial action on the part of germs which are indigenous to certain topographical and other trades unions. Likewise towns are permeated and dominated by microorganisms which determine the character of their habitat—e. g., Chicago money is infested by microbes which stimulate commercial activity, while the New York microbe inhibits the building of monuments, etc. The patent fact that for seven and one half years *THE JOURNAL* has succeeded measurably in Chicago is the very reason why it cannot succeed there; because the entire environment is now reeking with these ptomaines produced by these provincial and "wild and wooley" microbes, the alkaloidal intoxicants, resulting from past editorial and business management, as it were, and even though the Trustees may succeed, that success is only clinical, and flies directly in the face of all scientific prognosis.

This may not be perfectly clear to some, but remember, Mr. Editor, this is a contribution to current bacteriology and must be made to harmonize with all past contradictory investigations as well as to anticipate all future discoveries. No man knows what discovery he may desire to claim before another moon wanes. Now, Washington City is aseptic, is free from Nationalmedicaljournalism, and if a brain new publication plant—sterilized—be set up in properly disinfected quarters, and the management be inoculated with a lymph derived from only the worst features of the most provincial medical journals until they cease to show reaction under the treatment, I think success would be assured. I fear but one thing; infection by the pathogenic germ of the *Congressional Globe*. Doubtless some such idea as this actuated Dr. S. Solis-Cohen, for he certainly would not be guilty of an *ad captandum* argument.

Seriously, but two considerations should weigh in answering the question of removal: the success, financial and otherwise, of *THE JOURNAL*, and the preference of a majority of its owners.

In their report made at the Nashville meeting the Publication Board, composed of nine eminent gentlemen representing the country from Maine to Arkansas, and including Washington City, stated that although they "have at different times invited competitive bids for its publication in other cities, but always with this uniform result, that it can be issued cheaper in Chicago than elsewhere."—*THE JOURNAL*, Vol. xiv, page 799.

Again, an editorial note in *THE JOURNAL*, Vol. xvi, page 204, states that of the total income of *THE JOURNAL* from all sources in the entire United States, "one-seventh of that amount comes from Chicago alone." A comparison between the two cities in this respect would be unjust to both places. Probably in no other city could *THE JOURNAL* attain the relative business success it has in Chicago, because of competition already occupying the field elsewhere.

The claim that leader writing cannot be done as well and as easily under one set of circumstances as under the other does not deserve serious consideration. European exchanges reach Chicago less than eighteen hours later than their arrival at Washington.

Personally, I would like to see more clinical matter printed; more abstracts from foreign periodicals, and this work can be printed as well one place as another, while Chicago certainly offers a fine field for an active clinical reporter.

As long as it represents a volume of Transactions *THE JOURNAL* will have unsatisfactory features. Just as the Quakers often suffer because of a mistaken "concern" on the part of some self-called "speaker," so will the Association listen to papers which might have been burned without irreparable loss to the profession, and *THE JOURNAL* must print a certain proportion of such. Change of publication office will not cure this evil.

Who own *THE JOURNAL*, and who should vote on a proposition to remove it farther east? Divide the country by giving Washington all the Eastern States and the

Southern States as far West as the Mississippi and let us study the matter statistically. In the List of Permanent Members, published in No. 26 of Vol. xv, I take at random first column on pages 929, 930, and 931, and, lest some peculiarity lie in the alphabetical arrangement, the first column on page 940, making a total of 300 names. With these as a basis for an estimate I find that of the total present membership of the Association, 12 per cent. are men from the Eastern and Southern States who were in the Association when *THE JOURNAL* was started, while of Western men whose admission antedates that time, there are 18½ per cent. The West certainly assisted at the *accouchement*. Of the total membership, 21¼ per cent. of Eastern and Southern men have joined since *THE JOURNAL*'s birth, while during the same time 48¼ per cent. of Western men have come in. Total Eastern and Southern members 33¼ per cent., of Western members 66½ per cent. Of contributors to Vol. xv, from the two sections of country, there were respectively 66 and 78. Whether it be regarded as a local or a National publication, *THE JOURNAL* may properly be regarded as the organ of an Association which is largely tributary to Chicago, and no change can justly be made on a vote taken at Washington in May. Let us have the postal card vote by all means.

CHAS. A. HOUGH, M.D.

Lebanon, Ohio, Feb. 7, 1891.

To the Editor:—Now that the question of changing the location of *THE JOURNAL* is under consideration, it is important that no time be lost in plainly laying before our readers and members the reasons why its removal should be demanded, and there is no place or no medium through which the matter can be better, fairer or more fully considered, than in that weekly, which is the property of us all; for it may as well be generally known that this transference of location cannot be consummated *except through specious, delusive argument, wily manipulating and shrewd diplomacy, with the aid of sharp parliamentary tactics*; in other words, by a genuine *coup d'état*. Our membership is bound by no alliances, can afford to act independently, and must be prepared to meet and neutralize by a compact and concentrated majority.

So far I have not seen a *single valid reason* why we should move East; on the other hand, the indications point the other way; that if another location is selected, it must be in the direction of the Occident, for the bone and muscle—so to speak—and the brain, too, of the American Medical Association, come from the West.

True, we have at the present time greater literary centres east of the Alleghenies; more books and professors. So with the "late unpleasantness"—the South had the generals and the gentlemen, but the North had the men and money.

To-day, the West has the natural wealth, with an enormous and rapidly multiplying population, and the time has now arrived, in medicine as in politics, when the voice of that section must be respected in our councils.

It has been intimated that ours is a sort of a third-rate journal; indifferently edited and behind the times. Now, the contrary is incontestably the fact. Subscribing for nearly all our leading medical weeklies, there is not one which I read with greater relish and profit than *THE JOURNAL*. What should particularly commend it to us, is that it is *out and out American*. Its pages are not stuffed and padded with abstracts from other exchanges, which have often nothing to justify their appearance, except because they "are foreign, you know."

The pages of our journal are open to the best American thought; to the humble plodder, as well as to the more pretentious professor. Its present status is one of prosperity, its future, conducted on the same lines, is unquestionably one of unparalleled success.

Let us, then, *stand together, regardless of section, and*

insist on no removal from Chicago; a city for its size and importance, the most centrally located and accessible in the United States.

Let those satisfied with the present *régime*, and its publishing centre, MOVE EARLY, and see to it that their friends are in their places at the next meeting of the Association in Washington, D. C., to maintain their position and cast their ballots.

THOMAS H. MANLEY, M.D.

New York, February 9, 1891.

ASSOCIATION NEWS.

American Medical Association.

The forty-second annual session will be held in Washington, D. C., on Tuesday, Wednesday, Thursday and Friday, May 5, 6, 7 and 8, commencing on Tuesday at 11 A.M.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and District Medical Societies as are recognized by representation in their respective State Societies, and from the Medical Department of the Army and Navy, and the Marine-Hospital Service of the United States.

"Each State, County, and District Medical Society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city, or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Members by Application.—Members by Application shall consist of such Members of the State, County, and District Medical Societies entitled to representation in this Association as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the President and Secretary of the Society of which they are members, and the amount of the annual membership fee, five dollars. They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms.

The following resolution was adopted at the session of 1888:

That in future each delegate or permanent member shall, when he registers, also record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

Secretaries of Medical Societies, as above designated, are earnestly requested to forward, *at once*, lists of their delegates.

Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the

Secretaries are, by *special resolution*, requested to send him, annually, a corrected list of the membership of their respective societies.

AMENDMENTS TO THE BY-LAWS.

Offered by Dr. A. L. Gihon, United States Navy:

That the first day of the meeting of this Association shall be the first Wednesday of May or June respectively, instead of Tuesday.

By Dr. X. C. Scott, Ohio:

That the Committee on State Medicine be abolished, inasmuch as the Section on State Medicine occupies the entire ground.

By Dr. E. A. Wood, Penn.:

That the word Physiology be stricken from Section*1, and a new Section, entitled the Section on Dietetics and Physiology, be formed.

By Dr. J. C. Culbertson, Ohio:

That the State and Geographical District Societies in affiliation at this time with this Association, having a membership of 100 or more, shall be recognized as branches of the American Medical Association.

That all members of said Societies enjoy all the rights and privileges now accorded to delegates.

By Dr. Wm. H. Daly, Penn.:

That in future the permanent members have all the rights of delegates.

ADDRESSES.

On General Medicine, by Dr. E. L. Shurly, Detroit, Mich.

On General Surgery, by Dr. Jos. M. Mathews, Louisville, Ky.

On State Medicine, by Dr. W. L. Schenck, Topeka, Kan.

Committee on Arrangements: Dr. D. C. Patterson, Chairman, 919 I street, N. W., Washington, D. C.

WILLIAM B. ATKINSON, M.D.
Permanent Secretary.

BOOK REVIEWS.

PRINCIPLES OF SURGERY. By N. SENN, M.D., Ph.D., Milwaukee, Wis. Illustrated with 109 wood engravings. Philadelphia and London: F. A. Davis, publisher. 1890.

Principles of surgery, surgical pathology and general surgery are synonymous terms. This is the soul, the brain, of the science of surgery. It is the red thread that runs through the surgeon's every action, and leads and guides him in diagnosis, in prognosis, and in treatment as well. It lays down broad general laws and truths, which are the same everywhere, in any number of details of a given case.

Special surgery is a conglomerate mass of details, of anatomy, technique of operating and varied forms of special diseases in special regions. It is impossible for any surgeon to remember and know by heart all of these at one time. Thus,

he has his books in which to find the detailed description of a disease or operation when he meets a case requiring this special knowledge.

General surgery, on the other hand,—the broad general laws of Nature,—the student, the practitioner, the surgeon, must have ever present in his memory. It must be a part of his every-day thought and reasoning. He must know the general laws by heart, because he has to use them in his every-day work. The principles of surgery is the most important part of the science of surgery.

Since the appearance of Billroth's "Surgical Pathology," twenty years ago, no book has appeared covering this special field.

Too little space is devoted to general surgery in the modern textbooks, Tillmanns, Fischer and others. Koenig's otherwise excellent work is too old as regards this branch of the subject, excepting Part II, published in 1839, written by Riedel, which is most excellent and entirely modern, but which covers only part of the field. Besides this, Koenig's Surgery is not as yet translated into English.

In the last twenty years general surgery has been revolutionized by the development of bacteriology and Lister's antiseptic method. Bacteriology has revolutionized pathology, which is now written in an entirely new language, incomprehensible to the readers of twenty years ago. New editions of Billroth's work have entirely failed to bring it up to date. The Lister method has revolutionized treatment just as much. Thus, the views of treatment even of as apparently simple an affection as a furuncle or felon have changed entirely, and so much the more in graver affections. The advice given in the general surgery of to-day is in many respects diametrically opposed to the advice of twenty years ago, and many a procedure, which at that time seemed hazardous or aggressive, is to-day not only legally permissible, but imperative, is the rational treatment, and adherence to the old conventional methods must be considered as neglect, and even as malpractice.

In the first chapter, on regeneration, the author draws a sharp line between this process and inflammation, defining regeneration as a formative process in contra-distinction to inflammation, a destructive one. In this chapter he takes strongly the ground of homology in cell development as opposed to the metaplasia of Virchow. I think this point is well taken in a text-book for students, in which it is important to have as distinct landmarks as possible, in order to facilitate comprehension.

The results of modern investigation in such processes as karyokinesis, vascularization, cicatrization and epidermization, are fully described, and lead to a number of practical remarks on the aseptic and antiseptic treatment of wounds, which are most important for the surgery of to-day.

In the chapters on blood-vessels and fractures,

the author speaks with the authority of an original investigator.

In the chapter on inflammation, the author holds that inflammation is always caused by one or more kinds of microbes, thus entering another field, where the previous valuable writings of the author make him perfectly at home. A careful consideration of the modern histology of all the tissues concerned in inflammation makes this chapter most important and interesting. The modern field of phagocytosis is ably considered, and the author believes that there is positive evidence of the potency of this process in limiting or combating infective invasives.

Chronic inflammation, the granulomata of old, which is always due to the action of specific microbes, is ably discussed in its various forms, and a comprehensive light shed upon the variety of course and symptoms, by a careful consideration of the mixed infectious as the cause of abscess formation in these diseases. By inserting practical points in diagnosis and treatment where modern research has made it possible, this otherwise rather dry and uninteresting subject has been made much easier for the student, and very attractive.

In the chapter on the treatment of inflammation, the author is entirely modern, and does away, it is hoped for all time, with the legion of cataplasms and counter-irritants of times gone by, as well as with a number of useless drugs, which must give place to the healthy stimulants. Among these otherwise very critical considerations, I am surprised to find the author's unexpected faith in cold applications.

The important subject of pathogenic bacteria has received an exhaustive consideration, as would be expected from the author of the most complete monograph on surgical bacteriology, which, as it well deserves, has been already translated into several languages. The chapter is short, clear, and is not burdened by details. This is a difficult task, on account of the mass of literature now existing, and evidences just criticism in an author conversant with the whole literature of the subject.

The subject of necrosis in all its pathological and clinical varieties, is entirely modern, and has been made an exceedingly valuable chapter to the practitioner by elaborately detailed practical advice, given from cases of every-day occurrence. The descriptions are made such life-like pictures of cases that we meet with that any practitioner will recognize them when he reads them, and they will constitute for him a valuable guide in diagnosis and treatment, such as I have not yet found in any of the text-books on general surgery.

The subject of suppuration is probably the most important chapter in modern surgery. We find in this book a clear exposé of the intricate connection between the different forms of sepsis

and the different microbes, with their relations to etiology, clinical symptoms, and treatment. The landmarks in history also receive due consideration. The detailed advice for the treatment of each individual form, from the small localized felon up to the acute, rapidly progressing fatal sepsis, is exceedingly important to the practitioner.

In the chapter on osteo-myelitis, the author himself has made a valuable addition to the progress in modern treatment in the filling of bone cavities by antiseptic decalcified bone chips.

The chapter on intra-cranial suppuration is exceedingly interesting and practical, clear in differential diagnosis, exhaustive in advice, and founded on the manifold researches and observations in this modern field of surgery.

The author follows suppurative inflammations through all the tissues of the body, giving for each territory the results of modern research as to etiology and the modern operative methods as well.

The important subjects of septicæmia, pyæmia, and septic-pyæmia, almost incomprehensible as they are in all other works up to date, can be read in this work with great interest, as the author has been especially fortunate in drawing comprehensive lines and pointing out landmarks founded on modern investigation and leading to advice, also entirely modern, in the war against these diseases, which are, we might say, the most formidable enemies of the surgeon.

The chapter on surgical tuberculosis belongs exclusively to modern surgery. The rapid strides forward of the last one or two decades have revolutionized the diagnosis and treatment of this extensive field of surgery, which includes, we may say, the greatest number of every-day cases for operation. With the exception of Koenig and Riedel, who are not accessible to English readers, we find in this work the first exhaustive and comprehensive description of surgical tuberculosis, in all its varied forms and treatment. This is eminently practical also in this book, as the examples cited of tuberculosis of joints, glands, etc., are the typical ones of every-day surgery, and the operative treatment, as described, is so clear and exhaustive, that it is a safe guide for any operator.

The little chapter on fascial tuberculosis is entirely new, and is based on original observations of the author, which, so far as I know, have not before been published.

In a review it is impossible to do more than to point out here and there what strikes the reader most markedly. Thus, a multitude of subjects can receive no mention. In general, I will say that each subject has been discussed exhaustively. If we take at random one of the smaller subjects, as, for instance, actinomycosis, we find, as a proof of the comprehensiveness and completeness with which the subject has been treated, each of the following points distinctly discussed: History; description of microbe; cultivation ex-

periments; inoculation experiments; sources of infection; pathology and morbid anatomy; clinical varieties, including cutaneous surfaces, alimentary canal, respiratory organs and brain; symptoms; diagnosis; prognosis and treatment.

As a teacher of surgery, I have for a long time felt the need of a work on general surgery short enough to be read by the student, complete enough and modern enough to bring the subject up to date. Such a work we have in the book before us. It has been written with just discrimination in the selection of the grains of gold in the enormous mass of the modern literature of the subject.

It is an important aid to the teacher, enabling him to do away with the tedious, didactic lecture, and the plowing through the enormous literature to find what the student of to-day needs. I, for one, intend to use the book as a text-book for the students to learn, using the lecture hour for quizzing and demonstrations, supplemented by remarks on matters of interest in the current literature of the subject.

To the practitioner and surgeon this work brings the subject of modern surgery up to date, in a comprehensive form, and he will find it a valuable and safe guide in his everyday work in diagnosis, prognosis and treatment.

The illustrations are numerous, well chosen and well executed, and the publisher deserves credit for the appearance of the work.

CHR. FENGER.

MISCELLANY.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 18, 1891, to January 24, 1891.

Major William H. Gardner, Surgeon, is relieved from further duty in the field, and will return to his proper station. By direction of the Secretary of War. Par. 2, S. O. 19, A. G. O., Washington, January 23, 1891.

Major Stevens G. Cowdrey, Surgeon, extension of leave of absence on account of sickness granted in S. O. 302, December 27, 1890, from this office, is still further extended two months, on surgeon's certificate of disability. By direction of the Secretary of War. Par. 13, S. O. 19, A. G. O., Washington, January 23, 1891.

Capt. Walter Reed, Asst. Surgeon, is relieved from temporary duty at Ft. Keogh, Mont., to take effect as soon as his services can be spared by the commanding officer of that post, and will then return to Baltimore, Md., and resume his duties in that city as attending surgeon and examiner of recruits. By direction of the Secretary of War. Par. 3, S. O. 20, A. G. O., Washington, January 24, 1891.

Capt. William C. Owen, Jr., Asst. Surgeon, is relieved from temporary duty with troops in the field, to take effect as soon as his services can be spared, and will then return to Muskogee, Ind. Ter., and resume his leave of absence. By direction of the Secretary of War. Par. 3, S. O. 20, A. G. O., Washington, January 24, 1891.

Capt. Charles M. Gandy, Asst. Surgeon, is relieved from temporary duty in the field, to take effect when his services can be spared by the commanding officer of the troops with which he is serving, and will then return to Ocean View, Cape May Co., N. J., and resume his leave of absence. By direction of the Secretary of War. Par. 1, S. O. 21, A. G. O., Washington, January 26, 1891.

Capt. Robert J. Gibson, Asst. Surgeon, is relieved from further temporary duty in the field, to take effect as soon as his services can be spared by the officer commanding the troops with which he is serving, and will then return to New Haven, Conn., and resume his leave of absence. By direction of the Secretary of War. Par. 6, S. O. 22, A. G. O., Washington, January 27, 1891.

Capt. William Stephenson, Asst. Surgeon, will proceed without delay from Columbus Bks., O., to Ft. Wayne, Mich., and report in person to the commanding officer of that post for temporary duty, and upon completion thereof will return to his proper station. By direction of the Secretary of War. Par. 13, S. O. 23, A. G. O., Washington, January 28, 1891.

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CHICAGO, FEBRUARY 21, 1891.

No 8.

LECTURES.

PATHOLOGY OF PHTHISIS PULMONALIS.

A Lecture delivered at the Post-Graduate Medical School of Chicago, January 23, 1891.

BY HENEAGE GIBBES, M.D.,

PROFESSOR OF PATHOLOGY, UNIVERSITY OF MICHIGAN.

Mr. President, Ladies and Gentlemen:—I must first say that when I left home last evening I was not aware of what was before me; I have not come prepared to make a set speech this evening, and if you find what I say rather disconnected, I hope you will excuse me.

What I want to say in connection with this subject is on the part of the pathology and etiology of the disease, and how we have arrived at the place we now are, in which we consider we have done something towards curing the disease called consumption; I use the word consumption in the generic sense as applied to those diseases that are found associated with consolidation and decay of the lungs, together with wasting and emaciation of the body. We know that in making a post-mortem examination of a case of disease of the lungs we find a variety of changes there, appearances indicating in some cases that the disease has not progressed very far, while in others we find large consolidations, and in some parts large cavities caused by breaking down of this consolidation. So far we have only seen, with the naked eye, one appearance which is constant, and that is consolidation. Now if we stop there, at the naked eye appearance, we have simply one form of disease, consolidation of the lung with breaking down afterwards and formation of cavities; but when we bring in the aid of the microscope, and prepare sections cut from the lungs, we find a totally different state of things. I think this is one of the most important problems that we have before us at the present time, that is to say, whether we are to believe in the unity or duality of this disease. We know that the unity of this disease has been taught by a large number of men who fully believed in it, but I have been working on this subject for a number of years, and I simply cannot satisfy myself that it is so. I would point out that if you

take those cases where there is consolidation of the lungs, and carefully harden those lungs, cut sections from them, stain and prepare them for the microscope, and examine them, you will find that they divide themselves into two kinds. You will find that the one is inflammatory, and the other a new growth in the lungs, which is tubercle. I have taken these photographs from cases of acute miliary tuberculosis, in which you can see the process in the early stage, and I think they will show you the distinction. It seems to me that at the present time it is an important question as to whether there are two distinct diseases or not. You are aware that some dogmatic writers have insisted upon the unity of phthisis, but I have no hesitation in saying, from a careful study of diseases of the lungs, that this is not the case. There are two distinct forms of disease in the lungs, one the inflammatory breaking down, the other a new growth. I would therefore as a basis, divide lung diseases into two kinds, the inflammatory and the tubercular. And I would then, as a kind of sub-class to these, add acute miliary tuberculosis, which must be distinguished from these because its symptoms are so different; it does not run a long course. It never causes ulceration into the respiratory passages, and in cases of acute miliary tuberculosis you never get bacilli in the sputum, therefore I would make a sub-class of this. Take the inflammatory form of phthisis; we all know the form of pulmonic phthisis where you have in the first place a catarrhal pneumonia, there may be bronchitis, and extension of that into the lungs and an inflammatory condition of the lungs which ends in consolidation there. This consolidation may clear up and leave the lungs as whole as they were before, provided the damage done by the inflammatory process has not been so great as to destroy the vitality of that part of the lungs affected; but if, on the other hand, consolidation has gone on and the flow of blood through the parts has been arrested by the inflammatory process, and the damage to the lung is so great that a part of it is destroyed, that is dead, we then have retrograde changes resulting in what we call caseation. There is then the inflammatory form; this, if carried out to the destruction of the parts, ends in caseation and liquefaction,

which ejected through the bronchi leaves a cavity in the lung. That seems to me perfectly clear; I think that is the experience of all of us.

In the case of tuberculosis we have a totally different thing, we have there the formation of tubercles. Now I must explain what I mean by tubercles. It is a new growth in the lungs composed of a fibroid tissue; I call it fibroid tissue because I am not clear that it is fibrous tissue. The reaction is exactly the same as that found in fibrous tissue; it is distinctly a new formation in the lungs, and it is not of an inflammatory character, it contains one or more giant cells. This is distinctly a new formation; in a well-stained specimen it looks something like an elastic tissue, but I do not think it is ordinary fibrous tissue. There is this peculiarity in regard to tuberculosis, you do not get a large tubercle, when you first see the consolidation it is not one single tubercle, but an aggregation of small tubercles. A tuberculosis grows in the lungs by beginning as one or two small ones together, which gradually increase in size, and numerous smaller ones are formed around the edges, so you get a large mass which looks like a consolidated form of pneumonic phthisis. This tissue is peculiar, it has this characteristic that it readily breaks down, and for this reason it has been included in the infective class, together with the lesions of syphilis. Now we know there is a kind of tissue formed in syphilis which varies very much, but still it is a new growth, and we know that under certain drugs this can be changed and destroyed and broken down, leaving nothing behind but destroyed tissue. In tuberculosis we also have a new tissue, but of a more stable character. We know that in small tubercles, after they have grown to a certain size, the centre indicates the beginning of necrosis, and on the outside we have the reticular tissue containing the giant cell. The next stage is that the whole or a part begins to break down, and then it passes into what we call caseation, because we do not know any better name. The chemists, who ought to be able to support us in this, never do so; we have not yet had the composition of caseous matter worked out. What I want to know is whether the caseation in phthisis is the same as that of the breaking down of tuberculosis. If that was shown we would have more data to go on in forming an idea of the disease than at present. In these two forms we have consolidation as one cause of inflammation, and in the other a new growth, both resulting in breaking down and the formation of what we may call caseation. The result of these two diseases is the same, that is to say, formation of cavities in the lungs, while the beginning is totally different.

Before I speak of the formation of tubercles in the lungs I would pass on to acute miliary

tuberculosis. Every case of acute miliary tuberculosis that I have been able to get during the last nine years I have examined carefully, and have found always the same results. I have had to place them in two classes, the inflammatory and the tubercular. So we have acute miliary tuberculosis differing so much from either chronic phthisis or the more chronic form of pulmonary disease, still being the same clinically; it is almost impossible at present to discriminate between the two forms of acute miliary tuberculosis. In post-mortem examination of the lungs you cannot tell them apart, yet when we study these small nodules in the lungs we find two kinds, the inflammatory and the tubercular, and in this condition we can study them perfectly. But this is the difficulty we have to contend with in studying the disease and the lesions produced by that disease; we cannot get at the initiation of the disease in the ordinary forms, but we can in acute mil-

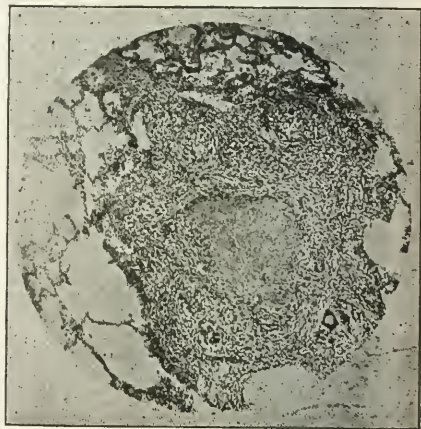


FIG. 1.—Typical reticular tubercle (essential type of tuberculosis, Payne). Fibroid tissue, giant cells, necrotic centre. From a case of pulmonary tuberculosis where all the lesions were of this structure, and no tubercle bacilli could be found.

iary tuberculosis. Figs. 1 and 2 are photographs of cases of children that died of acute miliary tuberculosis. The disease lasted about the same time, and the children were of the same age, the physical signs and symptoms were alike and were diagnosed as miliary tuberculosis. As far as I have gone, and I am certainly within bounds in saying that I have cut over a thousand sections of these lungs, and stained and examined them, I have never found any section made from either one of these lungs that did not absolutely put itself into one class or the other, inflammatory or tuberculous. So also in the more chronic form the division is absolute between the two, you

may divide the disease absolutely into two classes, tubercular and inflammatory.

With regard to the tubercle. I may say this: It has been said that the reason why there is this difference of opinion between some observers is that some take one form of tubercle and some another, on which to form their basis as to what a tubercle is. That is utterly wrong; you may make fifty or one hundred or more sections of the lungs in cases of acute miliary tuberculosis of the tubercular kind, and you will never find two that are exactly alike. There is always this sharp difference between the two forms; you have on one side an inflammatory process, with no attempt at structural formation; in the other there is a reticular structure, a new growth. Now, coming to the initiation of these two, and finding that the earliest stages in their growth, and finding that these two begin in the one form inflammatory

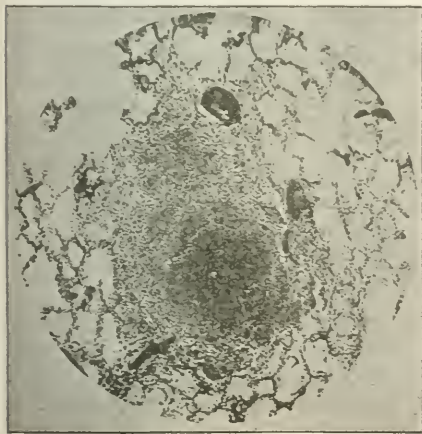


FIG. 2.—Caseous tubercle in lung of child in case of acute miliary tuberculosis (so-called). Centre of mass contains a large number of tubercle bacilli.

from the commencement, and in the other reticular, we are justified in deciding that these must be two distinct diseases, this the inflammatory condition, and that the tubercular. (Figs. 3 and 4.) This photograph shows that the commencement of the one is reticular from the beginning; you may see where a small tubercle is commencing, and you see this is formed from a new growth, and that is to be found in the very commencement; while the other is nothing but a collection of inflammatory cells. I have said enough to show that these are two diseases.

Unfortunately, I am not on the fashionable side, and what I have done on this subject is ignored; but I think we have come to a time when we cannot afford to ignore this. This is a more

highly magnified specimen, showing the tubercular structure, with large giant cells in it.

Now, in regard to the etiology of these two diseases; it seems to me that there ought to be no difficulty in working out the etiology of the inflammatory form of phthisis; it begins in inflammation and ends in the ordinary way; it simply breaks down. But the tendency is to consider what was formerly called causative as now only predisposition, that leads one only into difficulty, because now we have to face the question of the relationship of the tubercle bacillus to this process. Coming to the earliest stage of the disease as shown in these two photographs, we are told by many observers of the present time, that the tubercle bacillus is the virus of the disease. That phthisis pulmonalis and tuberculosis are one and the same disease; that wherever the tubercle bacillus is found, there is tuberculosis. Therefore, if we want to find the starting point, we must examine the earliest stage of the disease; but when we look at the very commencement of these two forms and look for the tubercle bacillus, what is the result? We cannot find it. I can say that in all the cases I have examined I have never been able to find the tubercle bacillus at the commencement of the process in the human lung. I have carefully picked out from the earliest cases what seemed to be representative ones, and photographed them, so that you can see what is there. This is the commencement of the disease, and the virus of the disease, the thing which starts it, is absent. There is another little difficulty in connection with it; that is, in these two forms in acute miliary tuberculosis you will never find the tubercle bacilli in the sputum. But you will never examine one of the inflammatory type of that disease without finding in the centre of the inflammatory mass a large number of tubercle bacilli. Hamilton has described this peculiar form very well; he calls it "disseminated catarrhal pneumonia;" and he says that not a few cases recover from this. He says that in this form you will find no trace of tubercular formation, no organization, no structure whatever. That agrees exactly with what I call the inflammatory form of acute miliary tuberculosis, and you will see in these specimens that the centre of the inflammatory mass contains a large number of tubercle bacilli. In the tubercular form I have examined many cases where there were no tubercle bacilli at all to be found, not only at the commencement of the disease, but all the way through it. There were none to be found in many hundred sections I had made of that condition; and others have put it on record that they had been unable to find them. Further than that, I have had cases of tuberculosis in the more chronic form, where the disease existed for a long time, under observation, and where there were no bacilli in the sputum; where the post-mortem examination showed large

cavities in the lungs, and sections of the lungs showed large tubercle breaking down and forming cavities, but without one single bacillus in them. So if the tubercle bacillus is the virus of the disease, as far as I can see, it is absent from the commencement of the process in both forms; and even absent throughout the whole course of the disease in some of these forms of tuberculosis.

The next thing which is supposed to show the tubercle bacillus in its position, is the effect when inoculated in animals. It has been stated positively, and on this is founded a great deal of what has been laid down dogmatically, that the lesion produced by inoculating tubercular material is identical with the small tubercle you find in the lungs; that is to say, it is a growth of fibroid tissue containing giant cells. I must disagree entirely with this. I have never seen in

the inoculated animal; that is to say, the new condition is inflammatory, and goes on to breaking down. These are photographs of the lung of a monkey inoculated with pulmonary phthisis; there the change is exactly what you find in the inflammatory form of acute miliary tuberculosis; that is to say, there is no effect on the connective tissues of the lung, there is no attempt at new formation, and if this is the case it is a very important thing, because, on the other hand, inoculation with tubercular material has produced in the lung of a monkey an entirely new condition. This photograph is taken from the spleen, where the monkey was killed eleven days after the inoculation, and in the centre of the Malpighian corpuscle of the spleen is seen a mass of large cells, which are exactly similar to those found in a strumous cervical gland. You know in the

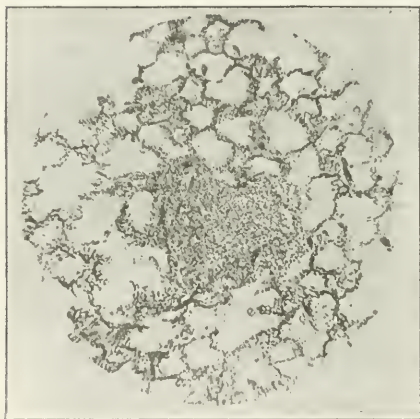


FIG. 3.—Inflammatory tubercle commencing. Lung of child. Case diagnosed as acute miliary tuberculosis. Lung injected with Berlin blue.

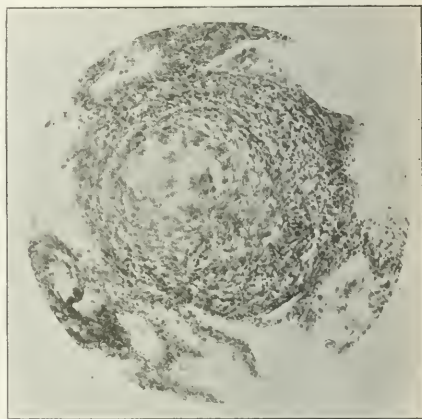


FIG. 4.—Reticular tubercle commencing, from a case of acute miliary tuberculosis.

the lung of inoculated animals a true tubercle, that is to say, the reticular formation with giant cells, such as you will find in acute miliary tuberculosis of the tubercular form, and which, Payne says, is the essential type of the disease, and what we have always been taught to believe a tubercle. This fibroid tissue with giant cells you will not find in inoculated animals, therefore the disease does not reproduce itself in animals. I have been doing work lately in studying the changes produced by inoculation, where I could prove that the inoculating material was taken from pulmonary phthisis and pulmonary tuberculosis, and although I cannot speak positively, I believe that the result produced by inoculation of caseous products from pulmonary phthisis produces a condition similar to that in the lung of

strumous cervical gland, which is one of the lymphatic glands, you have a number of masses of adenoid tissue, and between this physiological mass and capsule there is a lymph space forming a sinus there, the effect of the disease on one of these glands alters it entirely by the formation of these large cells, and the lymphatic tissue is entirely changed into masses of large cells with a number of giant cells in them with, after a time, caseation and breaking down in parts, which ends so often in suppuration. Now the effect produced in the monkey's spleen by the inoculation of tubercular matter has been to produce the formation of cells very similar to those found in struma or scrofula, there is certainly a strong resemblance, but as I have said, I have not had sufficient data as yet to speak positively on this. However, I

am endeavoring to carry out the investigation, but I have to take the sputum from cases and inoculate guinea pigs, and trust to providence to give me a post-mortem, and I can't get one post-mortem in twenty, so I am wasting guinea pigs. But I would like to give you the idea, because it seems to me there must be something in this condition, but whether it will be ultimately proved that there is any connection between scrofula and this tubercular inoculation I can't say as yet.

The next point is as to the relation of the tubercle bacillus to the disease, and the proof of inoculation by pure culture of it in the production of tuberculosis. I don't think those who have worked in this have given any statements whatever as to what the products were; we have had the bald statement that histologically the lesion produced by inoculation was identical with that found in the lungs. And this has been stated by men who knew nothing whatever about normal histology. I have met it so often that I feel convinced that such is the case, and I think it is materially hindering our investigations, especially in diseases of the lungs.

One other point I would like to mention is the consolidation produced in the lungs by other diseases. I have spoken so far of catarrhal pneumonia, caseation and the new formation tubercle, and then of the minor class of acute miliary tuberculosis which divides itself into two forms. But there are other conditions, lesions of syphilis and hydatids which sometimes are included in consolidations of the lungs. And another one is croupous pneumonia; we certainly sometimes get a consolidation produced by acute pneumonia remaining in the lung. While it remains in the lung as a solid mass it does not do much harm and gradually dries up, but it seems that some change will take place which produces an irritating action around the edge of the consolidated mass, and this may be either acute or chronic. If chronic, it does what chronic inflammatory action always does throughout the body, causes an increase in the fibrous tissue, and we know what the result is; we have the formation of fibrous bands of tissue in the lung caused by the chronic inflammatory action. But on the other hand, there may be an acute inflammatory process set up which results in the liquefaction of more or less of this consolidation, with the formation of a cavity from that, and here we have another way by which cavities are formed in the lung, and it certainly has no intimate relation with either inflammatory or acute tuberculosis. In regard to the clearing up of these different lesions in the lungs, we may, instead of having acute breaking down there and the formation of a cavity, have the mass dry up, and act as a chronic irritant in the lung, producing the usual chronic inflammation, with the result that it is isolated by fibrous tissue; and we have a chronic

cystic tissue in the lung which will either leave a cicatrix there or else a fibrous capsule with a mass of caseous material in the centre.

With regard to those specimens, I cannot say what the condition originally was, the mass in the center is simply caseous, and whether it was a gumma or a tubercle, I cannot say. Whatever was there is broken down and all structure is lost, but still it has produced the same effect of setting up chronic inflammatory action.

I would ask if I were going to kill the tubercles, What would become of them? Do they remain in the lungs as foreign bodies and by their irritation set up these little fibrous cysts which contract on their contents? If so, it would seem to me that the last state of that man would be worse than the first, the remaining lung tissue would be put upon the stretch so that there would be a kind of mechanical emphysema produced which he could hardly sustain.

In regard to the argument in favor of tubercle bacillus being the virus of phthisis; if you make a pure cultivation of bacilli and keep cultivating that from one tube to another, extending over a number of years even,—it will not do to go too far or they will lose their vitality—you are supposed to free them entirely from anything which may have been introduced in the first place from the organ that they were taken from, and you are supposed then to have a pure culture, and that if you inoculate an animal with this it will produce a characteristic lesion. It will produce a change in the lung of the inoculated animal; this is a rather difficult thing to get over, because that, together with the histological consideration of the introduced lesion, are the main points on which the position of the virus of tuberculosis rests. I would ask if it has been proved to demonstration that the cultivation of tubercle bacilli are absolutely pure? if nothing is carried from this mass on which they are cultivated? Has there been any attempt to prove that? That is a question which is very difficult to answer; but unless it is answered by exact science we may doubt it. We ought to consider all honest opinions, but we do not want to have opinions rammed down our throats as facts until they are proven. If this to be considered as the virus of the disease it must have its basis absolutely sure and certain before we accept it. Now take the example of the jequirity bacillus, which was found in an infusion of the beans sold in India as prayer beans. If you take an infusion of them and inoculate it into the eyes of animals you will produce an intense ophthalmia. It is used by the natives for trachoma, and produces an intense inflammation which lasts two or three days, and then all trace of the disease is gone. It has been found by investigation that after making this infusion and keeping it for two or three days, when it was examined it would be found teeming with bacilli. This bacillus was

cultivated in the same way as tubercle bacillus. Generation after generation was cultivated by a man as careful as Sattler was known to be. Klein made these cultivations and worked it out thoroughly, and I recall his saying to me, "If there is any one case in which it is proved to demonstration that the bacillus is the virus of disease it is this." He made an infusion of the bean in sterilized water, with every precaution against contamination, and inoculated the eyes of eight rabbits, and eight tubes of sterilized peptones. He examined them every day for two or three weeks and not a trace of microorganisms grew in them, but these animals got such an inflammation that they died with their heads swelled to an enormous size. He next took an infusion of jequirity bean teeming with bacilli and heated it to 100° centigrade and kept it so for a minute until the heat had destroyed all formed bacilli. He then took the spores from that and cultivated them until he grew bacilli morphologically identical with the bacillus he had before, but on inoculating the eyes of animals with it it had no effect whatever. Prof. Warden succeeded in isolating the alkaloid, not only from the beans, but the leaves, stems and root of the plant, and it was that which was doing all the mischief; it was shown beyond any doubt, in a case where it would seem to be absolutely proven that the bacillus was the virus of disease, that the bacillus had nothing to do with it.

Now I do not think we ought to take it as being absolutely true that the tubercle bacillus is the virus of the disease from the production of a lesion by an inoculation of so called pure culture, and work on that line. Dr. Shurly and I have always held the view that there is something there beyond the bacillus, and we have never troubled the bacillus except to find when it has gone out in the sputum of the patient treated. We have not worried that bacillus at all, others have been doing that. We have been working on the line that there was some morbid product there which could be combined with some chemical and rendered inert. We commenced work with that idea, and we certainly did succeed by using iodine, and we got to that stage the year before last where we could inoculate a guinea pig with tuberculosis and prevent the development of it; prevent anything developing beyond an abscess at the seat of inoculation, where we would find fluid pus full of bacilli, but with no lesions except fatty change in the liver, but which showed different conditions from ordinary fatty change, which, as you know, is generally around the periphery of the lobule. It was not necessarily confined to one lobule but sometimes running through the middle and changing into this fatty infiltration, so that when you held a section up you could pick out the patch that had undergone this change. We considered that we

were not justified in doing this to human beings and we then turned our thoughts to other subjects. Dr. Shurly worked on animals while I worked on pure cultures of tubercle bacillus, until by using a number of things we found a way in which we could render the tubercle bacilli in the cultivation absolutely inert so far as the gross lesion in the guinea pig was concerned, although it was not dead. We considered we had done this by using some chemical which would combine with the morbid product which we thought, and still think, must exist in these cultures, and that we have rendered that innocuous by forming a combination of substances. The one I found most efficacious was chloride of gold and sodium. By using chloride of gold I killed the bacilli right off. I communicated with Dr. Shurly on the results and he was struck with the idea of injecting this substance. We had before been giving insufflations of different drugs, and he thought that by injection we could introduce this fluid in such a way as to be carried to these parts where the morbid product especially existed, and that it would act in the same way. We found we were justified in that by the effect on animals, and from that we went on trying the effect on human beings.

From what I have said I think you will see I am at least justified in coming before such an assembly as this. I can assure you that it was with a great deal of trepidation that I began. I did not know whether I would be allowed to go on to the end. I have been sat down on so unmercifully on the other side that I feel considerably reduced in height in consequence. I hope you will not think I have been too dogmatic, but will pardon me when I say these conclusions are the result of careful work extending over eight or nine years. If you prove that I am wrong I hope you will let me down gently.

THE TREATMENT OF PHTHISIS.

A Lecture delivered at the Post-Graduate Medical School of Chicago, January 23, 1897.

BY E. L. SHURLY, M.D.,

PROFESSOR OF LARYNGOLOGY AND CLINICAL MEDICINE,
DETROIT, MICH.

Mr. President, Ladies and Gentlemen: I will not occupy your time very long as my colleague has gone pretty thoroughly into the explanation of our work in giving you our pathological ideas; I shall speak to you only from a clinical standpoint. It is the predominating opinion of physicians that the bacillus tuberculosis is the specific and only cause of the several forms of disease known as tuberculosis, and from its behavior it is a very hard thing to explain away. But when we consider from a clinical standpoint this bac-

terium, as the cause of the several conditions, known as tuberculosis, phthisis pulmonalis, in its several forms, tuberculous joint disease, scrofulosis, so-called tubercular skin diseases, bone disease, some forms of leprosy, besides other complex affections, it must strike any one who will think of it for a moment, as being impossible!

With regard to the bacillus, of course its specific character we do not question at all; nor its value as a diagnostic sign. The results observed are explained on the theory that it should have a nidus, and upon this nidus develop the disease, or, that it may remain latent in the body, constituting animal parasitism, a condition which was foreshadowed by Dr. Lionel Beal, twenty years ago, or that the bacillus is imbibed, exists for a time in a latent state and is then eaten up by leucocytes or by other microbes — phagocytosis. Now if the bacillus be the cause of these complex conditions we must recognize one or the other or all of these theories.

We have in phthisis pulmonalis, as you are well aware, three distinct clinical types of disease. It is almost impossible, so far as I know, to distinguish acute phthisis from milinary tuberculosis, the course is rapid in both, the temperature makes about the same range in each, about the same class of individuals are effected and present about the same symptomatology, which I will not detain you by describing. There is another form which we may properly denominate the *subacute form*, in which the patient has a distinct catarrhal inflammation, existing for a certain length of time, in the mucous membranes of the bronchial tubes, with little or no constitutional disturbance at first, but simply local disturbance, cough and respiratory sensations, while, sooner or later constitutional disturbances come on, and we find, if we make frequent observations by physical examination that the inflammation is extending to the smaller tubes, and involving the air cells; finally, if the process goes on there is continued wasting, more pronounced constitutional disturbance, hyperpexia, etc., and breaking down of the tissue, involving bronchii and alveoli of the lung and resulting in that peculiar suppurative caseation, if we examine such a patient at the end, upon the post-mortem table, we find cavities, caseous matter, indurated places and other evidences of inflammation. There is still another form, called *chronic*, in which there is the same result but the march is much slower, the constitutional disturbance also is put off for a long period, but after awhile, if the patient live long enough, the same condition of breaking down—caseation and induration occurs, and we have about the same morbid anatomy for chronic phthisis pulmonalis. Now it occurred to us in common with many that these several conditions could not possibly be identical with either that condition of bone or peritoneal disease where no bacillus is found, or

with general tuberculosis, a general or constitutional disease which exists from the beginning. It occurred to us also that phthisis pulmonalis could not be exactly the same clinically as the disease in the lower animals which is induced by inoculation, and therefore we began to look about for some other cause or causes. In other words, it seemed incomprehensible to me as a clinician, and to Dr. Gibbes as a pathologist, that this *one bacterium* could possibly be alone, the cause of these several complex diseases, because, as you know, reasoning from analogy that each of the specific fevers and like diseases show pretty constant phenomena, and so on, are alike or nearly so, and although there may be a seeming connection between some forms, perhaps, as between the typhoid condition and typhoid fever, yet the causes are not necessarily alike. We therefore, while not contending against the universal existence of the bacillus tuberculosis, think it probable that it is more of a concomitant or resultant in determining certain conditions. This thought, however, is not new; that something else beside the bacillus operates in this disease, for it was suggested by our worthy presiding officer, Dr. N. S. Davis, in 1882, in a paper before the American Medical Association, in which he said that there must be some chemical or biochemical action besides this bacterium to account for such conditions and courses; and many other clinicians have expressed the same doubt. But the thing is to work it out. One more word, concerning the infectious character of the disease; it is argued by clinicians in Europe and a great many in this country, that dry sputum when breathed by an animal or man will produce phthisis pulmonalis! this is true! for we have produced the disease in monkeys by insufflation of sun-dried sputum. In this way we have produced true acute and subacute phthisis pulmonalis, the disease being located in the *lungs*, while by inoculation of monkeys the disease produced has been general, infecting the spleen, liver and other organs, and least or not much at all, the lungs.

It is stated by several bacteriologists and pathologists, even by Koch, I think, that if you dry sputum in the *sun* the virulence of the bacillus is destroyed. We have also found this to be true. Yet we have thus dried the sputum in the sun, and been able to produce the disease in monkeys by insufflation. Does not this seem to indicate that there must be *something* back of the bacterium which is an active agent? Will the absolutely dead and destroyed bacillus produce this effect? We were therefore by this led strongly to think that there is a bio-chemical action in this disease, determining the particular sort of degeneration and suppurative, known as caseation. This then is the main idea in our view and, moreover, we consequently believe that when the d

the lung tissue there the poison is generated, induced by long continued inflammatory changes having taken place. We also believe that ordinary subacute phthisis pulmonalis and some other forms are perhaps similar in their nature to what was called in the old fashioned parlance, scrofulosis. Now with such views we began using different things locally by inhalation to stop if possible the formation of the caseating process and source of chemical action.

It is unnecessary for me to tell you of the large number of experiments, mostly failures, which we have instituted; we used the several gases disseminated in different ways, hydrogen, oxygen, carbonic acid, hydrofluoric acid, etc., with sulphuretted hydrogen; through accident, we discovered that it is a most virulent and subtle poison, one of our assistants in the laboratory was almost killed by it, besides a couple of monkeys killed outright. So we went on trying the gases, and finally settled upon chlorine, first used in 1828. From a study of its chemical nature as far as known, and from the fact that it is more or less combined with so many of the well known chemical reagents that are in use, it seemed to suggest itself to us as being very desirable for our purpose, but by causing so much irritation when inhaled, inducing so much inflammation by contact with animal tissues, it became a question whether we could introduce it or not; we tried a great many methods. First, mixed with air in small proportion and so on, and after killing a few monkeys and guinea pigs, we found after awhile that these animals could inhale the gas in the proportion of 1-40,000 of air; but this dilution we discovered was not sufficient to destroy the virility of the sputum, so we increased the quantity of the mixture until obtaining one that would destroy the activity of sputum, so that an animal inoculated with it was not affected. We found that with a mixture of about 1-4000, (by exposure for a few moments) we would destroy the virulence of sputum, so that we could inoculate animals with such sputum without producing any disease. Observing, as we thought, that hydrochloric acid and hypochlorous acid was evolved very soon after the liberation of chlorine gas in the air, probably accounted for its irrespirability and was the cause of the irritation, because the monkeys died from common inflammation of the whole respiratory lining. This afforded very good study, however, because there was general broncho-pneumonia produced, therefore we felt as though we must go on very carefully and not induce such a condition in the human being.

After trying many different things to neutralize the by-products we succeeded in accomplishing the purpose by using a solution of chloride of sodium. We began with chlorine water spray, but found by experiments with guinea pigs in a gas cage that sprays did not penetrate into the

lungs readily, that is without very long exposure although gas was evolved, all of which seemed to be unsatisfactory. It is possible, however, that the local effect of anything may be continued for a long time on the respiratory tract, beyond the place of contact, but we could get no chemical reactions in animals' lungs by using sprays, unless we used some substance subsequently giving off the gas. We obtained some effect from the spray of peroxide of hydrogen, which, after being diffused in the air of the gas cage, seemed to split up; also with chlorine water, which after awhile left the chlorine gas in the air, but we could not thus destroy the sputum. We therefore continued with our experiments in the use of chlorine gas, and found that with chloride of sodium spray well diffused, animals could inhale chlorine for a considerable length of time; and after trying it thoroughly on animals we began experiments on human beings with satisfactory results. Our idea was to *stop the formation of the virus*, whatever it might be, whether a ptomaine, a leucomaine or a toxalbumin, etc., and thus to stop the progress of the disease at these points, believing that phthisis pulmonalis is *essentially a local disease*. But we found after awhile that this plan would not *stop the process altogether* although it would check it! In the monkey, it would only feebly act in checking the course of the inoculated disease. But if we could manage to set up phthisis pulmonalis in monkeys by exposure, or from the insufflation of the dried sputum, or in menageries, we could prolong the course of the disease very much indeed by the gas. Constitutional disturbances would come on after awhile, however.

Turning attention toward meeting constitutional effects, the iodides of a great many chemicals were used, also chlorides and sulphides. We at first used them by the mouth, which brought serious events. On account of the changes which chemicals undergo in the stomach and intestinal canal we thought it better to use them by hypodermic injection if possible. There are reports in the literature of medicine from the last century, that iodine was valuable, but an irritant, and would produce abscesses, which it did in our experience. We thoroughly tried it, but had abscesses, which caused the death of the animals, but we found by accident that the abscesses were due to chemical impurities. After having the iodine resublimated by Dr. Clark we had no difficulty from abscesses, unless we used enormously large doses on animals. The same thing we found to be true of the chloride of gold and sodium and permanganate of potassium. The idea of using iodine came to us first from the fact of its solvent action upon the lymphatic glands and tissues generally in all of those diseases which so closely resemble phthisis pulmonalis clinically. We have used also the arsenite of potassium, but found that the poisonous effect was so great that it could not be

continued for any considerable length of time. We observed that after using iodine a certain length of time, a certain condition, iodism, took place which prohibited its further use; animals and man would have diarrhoea, vomiting, and would refuse food, etc. It is astonishing how much a little animal like a guinea pig can stand of these chemicals. These symptoms coming on soon made it necessary to have something else to hold the effect as it were. Taking our experience in the action of chloride of gold and sodium on dead tissues in general, we hit upon that, after failure with bichloride of mercury and other salts, and used it locally and by injection. Although it is said by surgeons that if you use hypodermic injections aseptically no abscess will follow, yet you will find that bichloride of mercury used hypodermically may produce abscess. This is not the case with chloride of gold and sodium if chemically pure, which, as you know, has been used for years as an alternative. We began by small doses and gradually increased them. We inoculated a number of guinea pigs, first with these chemicals, one series with iodine and one series with gold, and after doing that for a week or so until we noted physiological effects, we then inoculated them with well known virulent sputum and found to our astonishment that the pigs did not take the disease. We repeated this with another series, with the same effect, until we have now a number of very healthy pigs that have been inoculated with iodine and gold and with undoubted virulent sputum as proven by control animals. Just which is the better, of course has not been determined yet, for there are a great many things to learn. Unfortunately, the further we go into such a subject the more we appreciate that we know but little. We have been trying since, in continuance of our work, to trace out the poison, whatever it is. If we are right in this idea that it is a toxalbumin, a ptomaine, or a leucomaine, we want to isolate it. We want to get it out so that we can show it and test it and have it exposed in its true form, just as we can get crystals of strychnine, and we do not feel that the work is done unless the poison can be thus shown. We therefore feel that we are in the first part of the work only until we can show what part of these extracts lie at the bottom of the causation.

We are now engaged in making extracts—I can only hint at it, can only say that some of the results we have had from these extracts have been astonishing to ourselves, and if we can continue and perfect these investigations the probability is that in a year, or perhaps less, we may be able to isolate the particular poison or poisons which produce this disease, or which are generated in the body and keep up the disease. These extracts will produce it in the guinea pig; but whether they will do it *every time* we do not

know; we have not had time to test it thoroughly.

I suppose some of you may want to know what success we have had with human beings. We have tried to be very careful about making promises, although we have been published in the papers very much more than we anticipated or desired and there have been a great many exaggerated statements made. But of course you would like to know what success we have had thus far. I cannot give you the details of the cases to-night, we expect to publish some case histories in a short time. Of the cases of so-called general tuberculosis we have treated altogether about four well-marked cases; two of which died without showing any effect of treatment, one of them is certainly very much better, and the other case is simply held in abeyance, so far as we can observe. We have treated a number of cases of phthisis pulmonalis, including what Dr. Gibbs spoke of as the tuberculous form and the pneumonic form. We have had in all about twenty-two cases under observation for about two to three months with about six so called cures, taking all the several cases together, but there has not been time enough to tell whether these people have been thoroughly cured or not. In one case there was very decided laryngeal ulceration, which was seen by several medical gentlemen, in that case the cicatrix was so complete that it could be seen with the laryngoscope, just before she went home about Christmas practically well; her physician continues the hypodermic injection about once a week. One case I have in mind was a man in whom the upper left lung was breaking down, as was evidenced by moist and gurgling râles, so that there could be no mistake about it. He was examined by two or three others besides myself. This man has been under treatment since September and he has now an injection about once a week or ten days, but has practically gone from under the treatment. Another case, that of a young girl, who has gone home, seems to be lasting, the last advice is that she has remained well with scarcely any cough, merely a little hacking in the morning. In her case the diagnosis had also been made out by physicians before she came to us. Another case is that of a teacher who has resumed her school duties since January, she still coughs a little in the morning but has no elevation of temperature now and is gaining flesh and strength. Another case was that of a man whose disease was of a more chronic form; he left the hospital in a very much better state; he eats well and has no elevation of temperature whatever, no nocturnal diaphoresis, or anything of that kind. Of course this does not prove anything until more time elapses.

We have now about thirty-five cases under treatment, some of which are doing very well! There are two or three of them termed "caseous

pneumonia," that are not doing very well. The one case of tuberculosis which I mentioned is a case which several gentlemen outside the staff saw in the hospital; we thought of giving up the treatment, because there was no chance, for it is undoubtedly a case of general tuberculosis. But after one or two relapses she has been getting better, and when I left home she had been sitting up considerably for a number of days past; although she has elevation of temperature she has no nocturnal diaphoresis, her appetite has returned and she expectorates only about two drams of mucous in twenty-four hours, with no pus. We have one case of a young boy in the hospital, which is very promising and very interesting inasmuch as the probability is that he had pneumonia followed by abscesses of the lungs first, and then caseation of the lung. Another case was of pneumonic abscess followed after a time by the presence of tubercle bacilli in the sputum; on account of the deep location of the abscess, I did not open into the lung. I was afraid to cut through such a large amount of lung tissue to reach it. I therefore put him under this treatment, and he is slowly recovering from the abscess of the lung.

There are some other chemicals we have been using lately that may prove more valuable than iodine and chloride of gold. Of course the experimentation is far from complete, but one of them especially bids fair to be more promising than gold. The general plan of treatment seems to us to hinge on the use of chlorine gas to stop the caseation as far as possible, and cut off the origin of the poison, which thence is circulating through the system. In the early stage of disease, before much caseation, we do not think it is necessary to use the chlorine gas too freely, but instead the iodine, for its well known effect upon chronic inflammation.

I would say in regard to the manipulation of chlorine gas that it is a very simple thing but it needs some care. The chloride of sodium spray should be put into the room first, and the air thoroughly laden with it before the chlorine gas is evolved. At the hospital we use about 1-20,000 up to 1-4000. The first dose should be quite small for cases of laryngeal phthisis. In cases where there is ulceration chlorine gas in a room seems much the better way. If, however, there is only tumefaction the mixture of sol. of chloride of sodium and chlorine water chemically pure, is quite sufficient from an inhaler. The mixture of the two was suggested to us by Dr. Ingals, of your city. Before that, we used two tubes one containing chlorine water and the other the chloride of sodium solution. We had tried mixing them before but had always obtained a precipitate, and we therefore thought the two were incompatible, but we found out afterwards that it was because of exposure to light and long standing,

and if the mixture be used immediately we could get good results. So in cases of laryngeal phthisis of all forms, we should recommend that an inhaler be used.

We are certainly very much obliged to the profession of Chicago for the attention that has been shown us. When we started out, we had no idea that we were going to interest the profession of Chicago to such an extent, and as I said, we are very grateful for the attention we have received, and feel that we do not deserve it. We have not accomplished anything as yet, we have only started! We have nothing definite to promise and we only hope that all of you may aid us in every way possible by your criticisms and by your crucial tests, for that is the only way in which this problem can be solved.

ORIGINAL ARTICLES.

ADDITIONAL COMMUNICATIONS CONCERNING A REMEDY FOR TUBERCULOSIS.¹

BY PROFESSOR R. KOCH,
OF BERLIN.

The following translation of Mr. Doctor McDill represents perfectly the original treatise.

PROF. EHRLICH for PROF. KOCH.

Berlin, Jan. 17, 1891.

Since the publication, two months ago, (see *Deutsche Med. Wochenschr.*, No. 46 a) of my experiments with a new method of cure for tuberculosis, many physicians have obtained the remedy and have thereby been enabled to become acquainted with its properties by personal experiences. As far as I review the publications which have appeared, together with the communications to me by letter on this subject, my statements have, upon the whole, found full corroboration.

It may be considered as generally accepted that the remedy has a specific action upon tuberculous tissue and that it consequently can be utilized as a very subtle and reliable reagent for the bringing to light of the hidden, and the diagnosing of the doubtful tuberculosis processes. Also regarding the curative effect of the remedy, it is reported by the majority of observers that, despite the comparatively short duration of the treatment, a more or less extensive improvement has occurred in many cases. In not a few cases that have been reported to me a positive cure is claimed. Only here and there has been made the statement that the remedy might not only prove dangerous in cases too far advanced, as will be readily ad-

¹ Translated from the *Deutsche Medicinische Wochenschrift* of January 15, 1891, by John R. McDill, M.D., of Milwaukee, Wis., now in Berlin.

mitted, but that it directly favors the tuberculous process and is therefore *per se* harmful. I myself have for the past month and a half had an opportunity of gaining further experience concerning the curative effect and diagnostic uses of the remedy, by the observation, in the City Hospital in Moabit, of about 150 cases of the most varied forms of tuberculosis, and can only state that all that I have seen of late agrees with my former observation, and that I have no alteration to make in my previous report.²

As long as it was a question of testing the correctness of my statements, it was not necessary to know what the remedy contained or whence it originated. On the contrary, the trial was likely to prove the more unbiased the less was known of the remedy itself. But now that the proof has, as seems to me, been offered in sufficient quantity and has resulted in establishing the value of the remedy, the next problem to be worked out will be, to study the remedy beyond the extent to which it has hitherto been applied, and if possible, to employ the principles which have led to its discovery, in other diseases. This problem requires, self-evidently, a full knowledge of the remedy, and I, therefore, consider that the time has arrived to make the necessary statements in this direction and which will appear in the following. Before I touch upon the remedy itself, I think it advisable to the better understanding of its mode of action, to shortly indicate the road by which I arrived at its discovery.

When a healthy guinea pig is inoculated with a pure culture of tubercle bacilli the inoculation wound, as a rule, closes and appears to heal during the first few days, but in the course of ten or fourteen days there forms a hard nodule which soon breaks open and becomes an ulcerating surface which persists until the death of the animal. But the case is very different when a guinea pig is inoculated which already has tuberculous disease. For this purpose are best suited animals which four to six weeks beforehand were successfully inoculated. In such an animal the small wound of inoculation closes at the beginning, no nodule forms there, however, but on the next or second day a peculiar change takes place at the injection spot. This place grows hard and becomes of a darker color, and then this change is confined not merely to the vaccination site, but spreads about its neighborhood to a diameter of 0.5 to 1 cm. During the following days it appears more and more evident that the skin thus changed is necrotic; it is finally thrown off and there remains a superficial ulceration which usually heals rapidly and permanently

without the neighboring lymph glands becoming infected.

The inoculated tubercle bacilli thus act quite differently upon the skin of a healthy than upon that of a tuberculous guinea pig. Now this striking effect does not by any means belong exclusively to the living tubercle bacilli, for it is brought about in much the same manner by the dead ones, and it is unessential whether they are destroyed, as in my first attempts, by low temperature of long duration, by boiling heat or by certain chemicals.

After this peculiar fact was found, I have followed it out in all directions, and there then further resulted that (abgetödet) pure cultures in which the tubercle bacilli have been killed, after having been triturated and suspended in water, could be injected in large quantities under the skin of healthy guinea pigs without anything ensuing beyond a local suppuration.³ Tuberculous guinea pigs on the other hand are killed by the injection of even very small quantities of such suspended cultures, and this occurs, according to the dose applied, in from six to forty-eight hours. A dose which is just insufficient to kill the animal can cause an extensive necrosis of the skin, about the place of injection. Now, if the suspension (Aufschuemmung) be still further diluted until it is barely visibly turbid, then the animals remain alive, and if the injections are continued at intervals of one or two days there soon occurs a marked improvement in their condition; the ulcerating inoculation wound grows smaller and finally cicatrizes, this, without such treatment, never is the case; the swollen lymph glands diminish in size; the general nutrition improves and if the disease process is not too far advanced and the animal does not die of adynamia, it comes to a stop.

Hereby was given the foundation for a curative treatment of tuberculosis. To the practical application, however, of such suspensions (Aufschuemmungen) of "killed off" (abgetödet) pure cultures of tubercle bacilli, the objection offered itself that at the sites of injections the tubercle bacilli are not absorbed, nor do they in any other way disappear, but that they remain lying unchanged for a long time and form greater or smaller suppuration foci.

That which, in this proceeding, has the healing influence on the tuberculous process had consequently to be a soluble substance, which, by the fluids of the body surrounding the tubercle bacilli, is in some manner extracted and then quite rapidly brought into the circulation, while that which has the supplicative effect apparently remains behind in the bacilli, or goes into solution, but very slowly.

The main point, therefore, was to institute out-

² Regarding the permanency of the cure, I should like to mention here that of the patients which I had for the time being pronounced cured, two have returned to the Moabit Hospital for further observation, and that for the last three months no bacilli have been found in their sputa; the physical signs also have gradually disappeared in these cases.

³ Injections of this nature are among the simplest and surest means of producing suppurations which are free from living bacteria.

side of the body the process which took place within, and if possible to extract and isolate from the tubercle bacilli the healing substance. This problem has required much trouble and time, but I finally succeeded in separating the efficacious material from the bacilli, with the help of a 40 per cent. to 50 per cent. of glycerine solution. It is with fluids thus procured that I have made the further experiments on animals and finally on human beings; these fluids have been given to other physicians for the repetition of the experiments.

The remedy with which the new treatment for tuberculosis is carried on is therefore a glycerine extract of the pure cultures of the tubercle bacilli.

Out of the tubercle bacilli there, of course, passes into this simple extract not the efficacious substance alone, but also all the other substances which are soluble in a 50 per cent. glycerine solution, and, therefore, there are found in it a certain quantity of mineral salts, coloring matters and other unknown extractive matters. Some of these ingredients can be rather easily separated. The efficacious substance is insoluble in and can be precipitated by absolute alcohol, to be sure not pure, because together with it are precipitated other extractive materials which are also insoluble in the alcohol. The coloring substance it is true can be removed, so that it is possible to procure from the extract a colorless dry substance containing the active principle in a more concentrated form than the original glycerine solution. For practical application, this purification of the glycerine extract offers, however, no advantage, because the substances thus removed are indifferent to the human organism and therefore the purifying process would only render the remedy unnecessarily more expensive.

The constitution of the efficacious material is so far a mere matter of conjecture. It appears to me to be a derivative of albuminous bodies and clearly related to them, and does not belong to the group of so-called tox-albumins, because it bears high temperatures and passes easily and rapidly through the membrane of the dialyzer. The quantity of the substance contained in the extract is apparently very small; I estimate it at fractions of 1 per cent. We have then, if my supposition is correct, a substance the effect of which on tuberculously diseased organisms far surpasses what is known to us of the most powerful drugs.

As to the manner in which we have to imagine the specific action of the remedy on tuberculous tissue, different hypotheses can, of course, be entertained. Without wishing to assert that my opinion affords the best explanation, I believe the process to be the following: The tubercle bacilli produce by their growth in living tissues, the same as in artificial cultures, certain substances which influence the living elements, the

cells, in their neighborhood in varied but always harmful manner. Among them there is one substance, which in certain concentration, kills living protoplasm and so changes it that it passes into the state termed by Weigert coagulation necrosis. In the tissue grown necrotic the bacillus then finds such unfavorable conditions of nutrition that it is unable to keep on growing and under certain circumstances even dies off. In this manner I explain to myself the striking coincidence that in organs recently affected with tuberculous disease,—for instance, in a guinea pig's spleen or liver, which is full of disseminated gray nodules—we find numerous bacilli, while they are scarce or altogether absent when the enormously enlarged spleen consists almost entirely of white substance in a state of coagulation necrosis, as is often found after the death of guinea pigs from tuberculosis. Therefore the individual bacillus is unable to cause necrosis to any great distance, for as soon as the necrosis has reached a certain extent, the growth of the bacillus decreases and thereby also the production of the necrotizing substance; hence there results a kind of mutual compensation which causes the vegetation of individual bacilli to remain so remarkably limited, *e. g.*, in lupus and scrofulous glands, etc. In such cases the necrosis ordinarily concerns only a part of the cell, which then in its further growth takes the peculiar form of the giant cell; I thus, from this point of view, accept the explanation first given by Weigert of the formation of giant cells.

If the quantity of necrotizing substance was now artificially increased around the bacillus, the necrosis would extend to a greater distance and thereby the conditions of nutrition for the bacillus would become much less favorable than usually is the case. On the one hand, then, the tissue grown necrotic to a greater or less extent would perish, become detached and wherever possible carry away with it and extrude the enclosed bacilli; on the other hand the bacilli would be so greatly disturbed in their vegetation that they would be much more liable to die off than under ordinary circumstances.

The working of the remedy to me seems to consist in the production of just such changes. It contains a certain quantity of the necrotizing substance, a sufficiently large dose of which damages certain tissue elements also in the healthy subject—possibly the white blood corpuscles or cells closely related to them, and thereby produces fever and the entire complex symptoms. In the tuberculous subject, however, a very much smaller quantity suffices to cause in certain places, namely, where tubercle bacilli vegetate and have already impregnated their surroundings with the same necrotizing substance, necrosis of cells, more or less extensive, and in connection therewith consecutive symptoms in the whole organism.

In this way we can, at least for the present, explain the specific influence which the remedy, in quite definite doses, exercises on tuberculous tissue; next the possibility of raising these doses so remarkably fast; and finally the curative effect which undeniably exists in those cases which are but moderately favorable.

A STUDY OF STERILITY, ITS CAUSES AND TREATMENT.

Being an Essay which received the First Prize of the Alumni Association of the College of Physicians and Surgeons, Baltimore.

BY THOS. W. KAY, M.D.,
OF SCRANTON, PA.

(Concluded from page 229.)
TREATMENT.

1. *Nonproduction.*—*Male.*—(a.) Should the testes of the male be congenitally absent from the scrotum there is a possibility of their being present in the abdominal cavity, but in either case if aspermia or azoospermia exists, treatment is useless. Should spermatozoa exist in small quantities the same remedies can be used that are employed in early decay. These can also be used in cases of retarded development.

(b.) Where inflammatory or other troubles have produced destruction of the glandular structure, restoration of the destroyed tissue is impossible; but under iodides and mercurials with counter-irritants and electricity, the inflammatory deposits may be absorbed and the arrested secretion from the remaining healthy portions reestablished.

(c.) When sterility in the male is accompanied by atrophy or softening coincident with varicocele, hernia, or other benign tumors, the prognosis is good, if the individual will submit to surgical treatment in time. The tumors should be extirpated and the testes injured as little as possible. In all cases of hernia where a truss is not suitable the radical cure should be undertaken. Of all the methods used for varicocele the best is ligating the veins above and below, by the open method, and dividing them between. Hydrocele should be first treated by withdrawing the fluid and injecting irritating substances, after which, if a cure is not effected, more radical measures can be adopted. For malignant tumors, thorough extirpation has to be resorted to and the prognosis is very unfavorable for future posterity.

(d.) If sterility is subsequent to some constitutional disease, attention must be directed to building up the general health. A sea voyage, a trip to the mountains, sea bathing, or a stay at some chalybeate springs will be found beneficial in anæmic or debilitated persons.

In obese and plethoric subjects the saline springs will be preferable, while a course of laxatives, careful dieting and regular exercise will exert a beneficial influence. Should the cause

be traced to masturbation or excessive venery, bromides must be used, while the will power is appealed to and the patient removed as far as possible from all exciting causes.

Debility of the sexual organs can be best overcome by cold douches and electricity, while the phosphides, nux vomica, and cantharides are employed internally.

Female.—(a.) Congenital absence of the ovaries can not, of course, be remedied, and non-development is almost as hopeless, though there is reason to believe that the use of electricity and massage, long continued, may stimulate the development of the glands. Where dislocation of the ovaries depends on uterine displacements it should be treated by attending to the false uterine position. If the ovary alone is dislocated it can frequently be treated by a pessary, unless in the inguinal canal, when it should be replaced and supported by a proper fitting truss.

(b.) Little can be done when atrophy of the ovaries follows wasting diseases, except to use tonics and such remedies as are used in atrophied testes, hoping thereby to cause development of such follicles as have escaped the inflammatory process. Much, however, can be done to prevent inflammatory troubles by preventing early marriages. Women, as a rule, unless well developed, should not marry under twenty years of age, and in many cases it is best to wait until the twenty-second year. In pelvic inflammations, where exudation has taken place, it is well to withdraw, by aspiration, what fluid can be obtained and thus abort the trouble. Dr. Hardon, of Atlanta, Ga., speaks highly of this treatment, and I have seen the happiest results follow its use. Where due to syphilitic infection the inflammatory deposits must be treated by iodides and mercurials while tonics are given to build up the general health. Where atrophy of the ovaries is due to contraction of inflammatory deposits, which dislocate or compress the ovaries, much benefit can be obtained from the long-continued use of hot water vaginal injections, massage and galvanism. Vaginal and rectal suppositories, containing iodine, iodoform, or one of the iodides, can also be used with advantage. With the local treatment we should also use tonics and such remedies as are best calculated to build up the constitution.

(c.) Where malignant growths affect the ovaries, early and complete removal must be resorted to, but if the growth is benign, the operator should, if possible, leave as much of the ovary as appears to be healthy, in the interest of future generations.

(d.) The sterility attending anæmia, chlorosis and other constitutional affections must be treated on general principles. Tonics, baths, chalybeate waters, voyages, change of scenery and surroundings, can all be used, while good and nutritious

food must be furnished and regular out-door exercise enjoined. Where the persons are addicted to the use of drugs they will have to be gradually weaned off and some substitute used till the physical and moral nature is sufficiently strong to enable them to abstain.

In cases of obesity, rich, saccharine, fatty and starchy foods must be forbidden, regular and daily out-door exercise required, and sea bathing and saline waters advised. In the way of medication aloes, iron, nux vomica, and phosphorus can be employed advantageously. Desprès relates cases where the application of electricity produced sexual excitement with a discharge of vaginal and uterine secretions, and it is more than likely that the same agent will be found of use where non-production of ova is due to a sluggish condition of the female genitalia. Little can be done by the physician in inherited sterility except to pay attention to the general functions of the body, but he should, wherever he can act as the family adviser, impress on his patients the evils of inter-marriage, and do all that he can to prevent such unions.

2. *Nonunion. Male.*—(a.) Any absence or occlusion of the ducts situated between the testes and the urethra is naturally out of reach of the surgeon, unless the occlusion is due to pressure from a tumor of the cord or elsewhere, in which case it can be readily removed. The causes of non-union in the male are fortunately situated, as a rule, in the urethra, and these can generally be remedied. In urethral fistula, epispadias, and hypospadias, the defect can be remedied by a plastic operation. Phymosis, stenosed meatus and dilated meatus can also be easily remedied by simple operations. It is in strictures of the urethra, however, that the surgeon has to employ his ingenuity, and wide differences of opinion exist as to the best methods to employ. Soft stricture usually yields readily to dilatation, but the fibrous stricture should be treated by urethrotomy and electrolysis. Otis, of New York, prefers internal urethrotomy; Stein, of New York, thinks gradual dilatation best; Keyes, of New York, practices external urethrotomy for strictures from injuries; Lavaux, of Paris, claims a new method which he calls "divulsion progressive," where a cure can be effected in eight days; and every town of any size now has its ardent advocate of electrolysis. Should the breadth of a fibrous stricture be narrow it may be advantageously excised by external urethrotomy and the two portions of the urethra carefully drawn together and united by sutures.

(b.) Though the gonorrhoeal poison is one of the most potent factors in producing sterility, yet it probably affects the vitality of the spermatozoa very little as they pass through the urethra. It is well, though, in every case to check the discharge as soon as possible, and for this I have

found injections of creolin or of sublimate solutions among the best remedies.

(c.) The use of artificial means by the male to prevent conception can not be too severely condemned, for they are injurious both morally and physically. Abstinence from coitus, and coitus only about midway between the two monthly periods are the only legitimate means to be employed, where there is a desire to avoid conception.

(d.) In individuals of excitable dispositions, where orgasm comes on before that of the female, bromides can be given, but in time each individual will learn the other's disposition and be able to hasten or delay orgasm till the proper moment. If this is not accomplished in a reasonable length of time, it may be well to separate the parties for a longer or shorter period, at the end of which time the difference in disposition will probably not be as great. Where neuroses of the genital tract exist there will generally be found some tenderness, or it may be a stricture of the urethra. In either case attention must be directed to the seat of the trouble. If orgasm seems to be retarded by exhaustion of the nerve centres nothing will be found better than phosphide of zinc and nux vomica. Where the trouble seems to be due to a dilatation of the dorsal vein of the penis, subcutaneous injections of ergotin by the side of the vein will be found useful. Jamin, of Paris, reported a case where imperfect erection was cured by the surgical treatment of an accompanying varicocele. Vidal de Cassis reported a similar case and I have succeeded in curing another case by the same treatment.

Female.—(a.) All abnormal conditions of the ovaries and of the ova which prevent the escape of the ova or the subsequent entrance of the spermatozoa are irremediable. So also is absence or imperfect development of the tubes and absence of the uterus. In cases of double uterus operative interference is not called for, nor is it in double vagina unless the septum prevents coitus. Where there is partial or complete absence of the vagina, with a normal uterus present, an artificial vagina can be made by carefully dissecting between the bladder and rectum so as to avoid injury to these organs. In unmarried females tents will have to be used occasionally to keep it from contracting, but after marriage the male organ will usually render the use of the tent unnecessary.

The discovery of an imperforate hymen is usually made at puberty, and is easily remedied by incising, but all antiseptic precautions must be used to prevent septic absorption. Should coitus be prevented by a rigid hymen or an abnormal condition of the vulva, a slight and harmless surgical operation will set all to rights.

Atresia of the cervical canal is best operated on by a trocar, and dilators used afterwards. If

hæmatometra is present the same care must be used as recommended in operating on hæmatocolpas, for septic poisoning is exceedingly easy after the operation. Stenosis of the cervical canal can be treated by incision, or by dilating with instruments for that purpose, but the best and most permanent results are obtained from the occasional use of tents.

For absence or abnormal shortness of the intravaginal portion of the cervix there is no remedy. Where uniform elongation or hypertrophy of the cervix exists amputation must be resorted to, but in the operation care should be used to unite the mucous membrane of the cervical canal to that surrounding the cervix so as to prevent subsequent stenosis. In sterility due to stenosis or flexions the "Outerbridge dilator" will be found of service, if introduced several days before the menses make their appearance. Where hypertrophy of the cervix is confined to only one side, amputation can be practiced or the convex portion of the cervix can be incised so as to remove the obstruction. Conical and nozzle-shaped cervixes must also be amputated. In cases of lacerated cervix or lacerated perineum the duty of the surgeon is to repair the injured part as soon as possible.

In all displacements of the uterus an effort should be made to restore the normal position.

Prolapse can be treated by massage, hot douches, astringent tampons, pessaries, supporters, or some of the surgical procedures to be mentioned hereafter. Where flexions exist tents should be used to soften the uterine tissue and straighten out its axis, after which intra-uterine stems, tampons or pessaries should be used to keep it in its normal position. Versions can often be treated by tampons and pessaries, and Bouilly, of Paris, recently reported eighty cases of retro-deviations treated successfully by pessaries; of this number three had subsequently become pregnant. Should, however, the displacements be of long standing it will be well to resort to surgical interference. Alexander has devised a means of shortening the round ligaments of the uterus, which has been modified somewhat by Polk and Wylie. This operation gives the best results for simple retro-deviations, but it has also been used in prolapse. In the latter case it is best to accompany it by some operation for narrowing the vagina or increasing the perineal support. In a case of prolapse Freund, of Strassbourg, opened Douglas' cul-de-sac and attached the fundus uteri to the peritoneum of the sacrum. This he calls retro-fixation. Ventro-fixation consists in opening the abdominal cavity and attaching the uterus to the abdominal parietes. It is steadily growing in favor and has the hearty support of such men as Lucas-Championnière, Polaillon, and Terrier, of Paris; Säger, of Germany; Kelly, of America, and many others. It

gives the best results in cases of simple retroversion, but has been used in nearly all displacements. Picqué, following the operation Olshausen, has, where the uterus was bound down, opened the abdomen, divided the bands and attached the uterine ligaments to the abdominal parietes. The result was good, but it might be well to adopt the method of Erich and forcibly separate the adhesions by a large steel sound introduced into the uterine cavity. It seems also that the safety of these operations might be increased by incising only as far as the peritoneum and suturing without opening the abdominal cavity. Contracted pelvis is a rare cause of impediment to the entrance of the semen, and when it is can not be remedied.

Acquired stenosis or atresia of the genital tract must be treated in the same way as the congenital form, and usually gives better results.

The evil results of inflammatory deposits about the uterus and its appendages have been dwelt on in speaking of the causes of sterility. When the acute stage has passed such remedies should be used as will favor the absorption of the deposits. Copious injections of hot water, in both vagina and rectum, are found very serviceable in producing these results, but they must be long continued to produce the best results. Tampons of glycerine with or without iodine, or iodide of potash also exert a favorable influence. Rectal and vaginal suppositories of iodine, iodide of potash, or iodoform have yielded excellent results in my hands, when combined with tonics and hot-water injections.

In some cases local blood-letting will be found serviceable. With all these remedies absolute abstinence from sexual excitement must be enjoined.

Electricity has been introduced by Dr. Georges Apostoli in the treatment of these affections, and its long continued use in chronic and subacute cases has been followed by the most excellent results.

Engelmann and many others, both here and abroad, testify to its efficacy.

Major Thure Brandt, of Stockholm, was the first to use massage in uterine affections, after which it was practiced by Dr. Sahlin of the Stockholm medical school. In 1870 Dr. Nostroöm, of Paris, became interested in the subject, and after carefully studying it introduced it into Paris in 1872, since which time it has been diffused over the whole civilized world.

It has been used for uterine displacements, metritis and ovaritis, but its most satisfactory results have been made in peri-uterine exudates of long standing. Semianikoff, of St. Petersburg, reports favorably of it, as do also Profs. Jackson and Martin, of Chicago, Drs. Smith and Athill, of England, and many others. Boldt, of New York, calls attention to the fact that great care must be

used where accumulations of fluid exist in the tubes. To get satisfactory results massage must be carried out by the gynecologist himself, and persevered in for a long time. Only chronic and subacute cases should be subjected to treatment, and where the finger of the operator is not long enough to reach the deposits he may resort to the obturator of Wissenberg, the end of which may be covered with rubber if much tenderness is experienced.

When hydro-, hæmato-, or pyo-salpinx exist, they may be overcome by putting the patient under an anæsthetic, dilating the uterus, breaking up what adhesions exist, and thoroughly curetting the endometrium, especially around the openings of the tubes. Intra-uterine galvanism is also useful, and cases have been reported where the obstruction in the tube has been overcome in this way. In the early stages of salpingitis it is well to follow the treatment of Dr. Mangan, of Marseilles—use rest, sedatives, and cold to the abdomen, while hot vaginal injections are employed, and when the case becomes more chronic apply medicated glycerine tampons to the cervix and iodoform pencils to the interior of the uterus. With these remedies it is well to combine tonics and baths.

Should vaginismus be the cause of sterility the remedies employed must be adapted to the cause of the vaginismus. Solutions of lead, silver and zinc may be employed for the inflammatory process, while cocaine, belladonna and morphia will relieve the irritation and pain. Coitus under chloroform has been advised but does not relieve the trouble. Gradual dilatation with specula has been used, but probably the best remedy is to excise the hymen close to its insertion. When vaginismus is due to uterine fibroids galvanism will usually effect a cure if sufficiently long continued.

In all cases where non-union of the ova and spermatozoa is due to hypertrophy or tumors of either the external or internal organs of generation, the surgeon should remove the cause if possible. The fact of sterile women becoming pregnant after the removal of uterine or ovarian tumors is well known to all.

Should the acid secretions of the vagina be injurious to the spermatozoa, boracic acid will be found to be an excellent remedy. Potter, of Buffalo, employs vaginal tamponnement with this remedy in cases of sterility, and claims good results from its use. Kisch recommends a warm aqueous saccharine solution rendered alkaline by caustic potash, and Chassier uses a solution of white of egg and phosphate of soda, in which the spermatozoa are said to live for a long time.

Where the impediment seems to be due to a thickened cervical secretion, it will be well to introduce a tampon, saturated with glycerine, several hours before coitus, and remove it before the act is accomplished.

Vaginal catarrh can be best remedied by injections of solutions of corrosive sublimate, creolin and boracic acid, though the astringent metallic salts can be used with advantage, and where much pain exists sedatives and demulcents should be employed. Parvin, of Philadelphia, and Jules Chéron, of Paris, speak in the highest terms of the use of creolin, employed either in solution or as an ointment.

The diagnosis of acute endometritis is usually easy, but where chronic endometritis is suspected it is best to follow the advice of Schultze, of Jena.

This consists in inserting a glycerine tampon against the external os at night, which, on removal in the morning, will have a small quantity of pus on it, if endometritis is present. The cure of simple catarrhal endometritis may be effected by glycerine tampons, and hot douches as recommended by Hermann, of London; or a solution of morphia may be employed with success, according to Sivieček. Where the cases are more obstinate solutions of nitrate of silver, sulphate of copper, tr. of iodine, carbolic acid or creasote can be used with advantage, but better results are obtained from introducing crayons made from tragacanth dissolved in glycerine and water, which contain iodoform, corrosive sublimate, creolin, resorcin or salol. Where the endometritis has become chronic, Dumontpallier uses Canquoin's paste, and Rheinstaedter, of Cologne, Dorff, of Belgium, and Bröse, of Berlin, speak in the highest terms of a 50 per cent. solution of chloride of zinc applied to the endometrium, which can be followed in a few weeks by a 20 per cent. solution. With the above remedies tonics must be used, and all agents that are calculated to build up the general system. The treatment of salpingitis has been spoken of before, and the line of treatment mapped out.

Where fistulae exist, surgical procedures must be resorted to, and it is well, where it is possible, to follow Tait's operation, as it probably gives better results than any other.

(c.) Nothing need be said about the artificial means used by women to prevent conception, except to condemn them as injurious and unnatural.

(d.) It is rare that the physician is called in to treat cases of retarded orgasm or the contrary condition, and when he is, little can be done except to appeal to the moral power while the functions of the body are put in order. In some cases a separation of the man and wife for a lengthy period of time will be found to be very beneficial to both parties, and will overcome the trouble.

3. *Non-implantation*.—Non-implantation after impregnation is due to some trouble in the tubes or the uterus. The treatment of diseased tubes has been spoken of while discussing the union of the ova and the spermatozoa, and it now remains to consider briefly the affections of the uterus.

The prognosis in the undeveloped or atrophied

uterus is poor, and yet, with the long continued use of tents, stimulating crayons, hot douches, electricity, massage, emmenagogues, and strict attention to the general health, much good can be obtained. The treatment of peri- and parauterine deposits has been spoken of in connection with uterine displacements, and endometritis was treated of when considering agencies injurious to the life of the spermatozoa. It remains to say, however, that in exceedingly obstinate cases of chronic endometritis, with or without fungous or other growths of the endometrium, the application of the blunt curette will be found most useful. After its application a solution of the subsulphate or the perchloride of iron should be applied to the endometrium, as recommended by Kay, of Scranton, or the iodized phenol can be substituted with advantage, according to Roony, of Quincy.

In curetting the uterus it is well to remember that paralysis of the muscular walls sometimes takes place, and the instrument seems to pass into blank space. Cases of this kind have been reported by Doléris and Geijl. For implantation of the ovum it is necessary to remove all intra-uterine growths, but where they are subserous or situated in the muscular tissue, the application of electricity should be persevered in, as its results are excellent and little danger attends its application. Ergot has been used subcutaneously, but little good has been obtained from its use. If sterility is due to compression of the uterus from intra-abdominal growths, laparotomy must be resorted to to remove the trouble. If cancer of the cervix is taken in time, its removal will justify a favorable prognosis, but where the disease has attacked the body of the organ nothing can be done in the interest of child-bearing.

In cases of membranous dysmenorrhœa the cavity of the uterus can be dilated and various medicinal substances applied to its interior. The curette has also been used with success, and Winckel has had good results from the application of leeches to the cervix uteri. But in many cases all treatment fails to relieve the trouble, and all that can be done is to see to the general health while sedatives and opiates are employed as required. In menorrhagia and metrorrhagia the cause must be looked for and the case treated accordingly.

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MEDICAL PROGRESS.

Therapeutics and Pharmacology.

A NEW MODE OF EXHIBITING SULPHONAL.—DR. DAVID D. STEWART, of Philadelphia (*Medical News*), says that unquestionably the great disadvantage of sulphonal over other recently-introduced hypnotics is its insolubility and consequent slowness of action. As ordinarily administered, dry upon the tongue, or suspended in mucilage, etc., the result, in most cases, is unsatisfactory. Even after a decided dose hours often elapse before sleep is obtained, and, usually, a condition of very annoying semi-somnolence is maintained throughout the greater part of the subsequent day. Unpleasant effects of this sort are so frequent that many physicians are deterred from prescribing what has proved in my hands the most satisfactory of the newer hypnotics. These effects obtain because of the very slow diffusion of the drug when taken in a state of simple suspension, the whole amount not entering the circulation for many hours after its ingestion.

I desire to call attention to a more satisfactory mode of administering sulphonal; a method that occurred to me when having occasion to take the drug a year or more ago, and one which has subsequently afforded me results in practice not in the least obtainable by its use in the common way. My method is as follows: I direct that just before retiring the sulphonal powder be well stirred in a glass two-thirds full of boiling water (about six fluid ounces) until entirely dissolved. The water must be boiling, and to insure that it is at the boiling-point when brought in contact with the sulphonal, it had better be heated on the spot. It can be boiled in a tin-cup over the gas, or over a spirit-lamp. After the sulphonal has entered into solution, which will occur in a moment or two if it be well-stirred, cold water may be very cautiously added to reduce the liquid to a drinkable temperature, which, if the patient is accustomed to taking hot fluids, will be one not sufficient to cause the slightest precipitation of the drug; or the hot solution of sulphonal may be permitted to cool to this temperature, the cooling process being facilitated by continued stirring. To insure success the sulphonal must be taken wholly dissolved, and the hotter the solution is drunk the better. It is surprising to one accustomed to prescribing this hypnotic in suspension several hours before bed-time, to allow for what has been called the period of therapeutic incubation, to note the prompt and satisfactory result of this simple manœuvre. The hot solution dilates the gastric vessels and stimulates them to rapid absorption, so that diffusion takes place from the stomach probably before slight or any precipitation of the drug occurs; entirely unlike the result that follows when the sulphonal

is ingested in a state of simple suspension. In the latter case gastric absorption can scarcely occur, and hours are perhaps consumed before the whole amount taken enters the blood. The period of therapeutic incubation is practically done away with. Sleep results in most cases in a very few moments, and seems to be more profound and dreamless than that from a larger dose taken in the ordinary way, and the annoying condition of drowsiness usually present on the subsequent day is scarcely felt if the dose be properly graduated. The hot solution, which has a slightly unpleasant taste from the dissolved sulphonal, may be rendered decidedly palatable by the addition of a tablespoonful of some such *liqueur* as *crème de menthe* ("green mint"), which, apart from its efficiency in this direction, will probably tend to promote still more rapid absorption of the drug. To obtain an immediate and altogether satisfactory result from this method it is desirable that the stomach be empty or at least comparatively free from food, so that precipitation be not favored and absorption delayed by the entanglement of particles of sulphonal and undigested food, but as it is unnecessary to take the dose until the retiring hour there will usually be no difficulty from this.

KOCH'S TREATMENT: EXPERIMENTS ON CATTLE.—PROFESSOR BOLLINGER, of Munich, gives (*Münich med. Wochenschr.*, January 13, 1891), a summary of some experiments with Koch's fluid made in the Veterinary Institute at Dorpat by W. Gutmann on three tuberculous cows. The disease was diagnosed partly by physical examination, partly by the presence of tubercle bacilli in the bronchial mucus and in the milk, and partly by changes in the lymphatic glands. Relatively large doses were employed, 0.1 g. being injected into one animal, 0.2 g. into a second, and 0.3 g. into a third. The injections were made behind the shoulder-blade. The temperature was taken every hour on the day of the injection and the following day and night. In all three animals the temperature began to rise about eleven hours after the injection. The reaction corresponded to the amount of the remedy exhibited, the maximum attained in the first animal being 40° C., in the second 40.8°, and in the third 41.7°. The duration of the fever in the three cases was four, nine, and ten hours respectively. In the first cow another injection of 0.3 g. was given four days after the first; reaction came on in from eleven to twelve hours and lasted four hours. In all three animals during the febrile period there was some difficulty of breathing and loss of appetite, but the next day they took their food well and rumination was active as usual. No rise of temperature followed the injection of 0.3 g. in two healthy bulls which were used as "control" subjects. Twenty-four

hours after the injection they were slaughtered and all the organs were found to be perfectly normal. Gutmann, therefore, concludes that Koch's remedy is a most valuable aid to diagnosis in the case of cattle suspected of tubercle. In this view Professor Bollinger agrees with him. —*British Medical Journal*.

Surgery.

COMPOUND COMMINATED COMPLICATED FRACTURE OF THE DISTAL EXTREMITY OF FEMUR. RECOVERY WITHOUT AMPUTATION.—The *Montreal Medical Journal*, February, has a brief report of a case of the above named accident reported by DR. JAMES BELL. The patient, male, aged 30, was brought into the hospital with so severe a fracture of the lower third of the thigh, and with so much laceration of the soft parts that amputation was, upon consultation, recommended. To this the patient would not consent, so that conservative surgery was performed. Under ether the wound was thoroughly cleansed, several small, loose fragments of bone were removed, which, with a portion of the bone excised, equalled about four inches of the femur-shaft. The articular end had been split and the condyles driven asunder by the violence of the accident; these latter were brought together and pinned with MacEwen's pins for the excision of the knee-joint. The patient rallied well after the operation and no troublesome symptoms arose. The temperature at no time exceeded 99.5° F. The patient was discharged at the end of three months and twenty days with a good union and a considerable amount of mobility at the knee-joint, which will, without doubt, be increased by passive exercise, the patient being at an age when this can be insisted upon rigorously and to some purpose. The shortening amounted to three and a half inches. A better result than this is seldom seen either in private or hospital practice, and may serve as a landmark for surgeons who need encouragement in their pursuit of conservative methods.

PAINLESS CIRCUMCISION.—G. W. OVERALL (*Medical Record*) says: For the past fifteen years I have performed circumcision quite frequently for the relief of various nervous disturbances. Since the introduction of cocaine I have used it almost exclusively in men, and frequently in children, by injecting it beneath the integument in the prepuce (having previously placed a rubber band around the penis half an inch or more back of the corona to limit its effect to the prepuce).

The pain attending the introduction of the needle into the sensitive skin has been a serious objection in men, and almost as bad in children, as the operation itself. Then I have had various postponements, and often complete abandonment

of it, because I could not promise "that it would not hurt." Now I can promise an operation where a child would not even know it until it was performed.

I do not want my patient to see the operation, and in the case of a child I conceal the instruments. I then place the patient upon his back and lay a small pillow on his chest so that he cannot see over it. I then adjust the rubber band, take a freshly prepared 30 per cent. solution of cocaine and inject with a small blunt-pointed syringe a few drops into the preputial orifice, at the same time I hold the end of the prepuce with my left hand, to prevent the escape of the fluid. I then press upon the fluid with my right hand to enable it to come in contact with the entire mucous membrane. I hold it for five or six minutes, when the mucous membrane is completely anesthetized. I then introduce carefully my hypodermic needle through the preputial orifice and penetrate the mucous membrane and inject a few drops of cocaine. I then move it to another part and repeat the injection. It necessarily requires caution to prevent puncturing the integument, which would cause pain. I operated upon a child six years old, very small, nervous and excitable, while he was discussing with his mother the kind of toys he would get for Christmas. I also operated upon a boy 14 years old that came from an adjacent town (using silk-gut ligature), he did not feel the slightest prick of the needle. He returned home the same evening and recovered without a bad symptom. It is always better to use a ligature that does not require to be removed.

Bacteriology.

THE EFFECT OF KOCH'S REMEDY UPON THE INTERNAL ORGANS.—PROF. VIRCHOW (*Berliner Klinische Wochenschrift*, January 12, 1891), reports the results of autopsies made at the Pathological Institute. Twenty-one of these cases occurred before the close of last year, and six or seven were added to the list previous to his report (January 7). Of the first twenty-one cases sixteen were in the strict sense of the term phthisical, with the process localized in the lungs, the remaining five were made up of one case of bone and joint tuberculosis, a peculiar case of carcinoma of the pancreas with an old lung complication, one of empyema, one of old rectal fistula, and lastly a case of arachnitis tuberculosa. The visible effects of Koch's remedy show it to be an irritant, producing redness and swelling, which is also present in the internal organs, and frequently in the severest forms. In the case of the tubercular arachnitis, a child from the wards of Prof. Hensch in whom, sixteen hours before death, an injection had been made, showed a greater degree of hyperæmia and injection of the brain and its membranes, than Virchow had ever before observed. He also carefully examined and could

not determine any alteration in the tubercular process. This acute hyperæmia and swelling was frequently observed in other organs. The walls of old cavities were often red, and infiltrated with blood.

A case is described in which death took place from anæmia after severe hæmoptysis. In this case the process was not confined to a simple hyperæmia and swelling, but it was possible to determine an active cell proliferation. This cell proliferation was especially well marked upon the wall of the cavity as well as in the affected bronchial and mesenteric glands. The swelling sometimes takes on a dangerous character, especially in the throat, where it may cause phlegmonous tonsillitis or pharyngitis, or erysipelatous œdema of the glottis. It is difficult to say whether this inflammation is caused by the injection or not. The changes in the lungs are divided into two classes—the first presenting the common picture of caseous pneumonia. Prof. Virchow did not remember to have seen in years so extraordinary a case of caseous hepatization as was presented in one of the specimens shown. The lung appeared like a blood sausage, with here and there pieces of pork distributed through it. In this case six injections were employed, the last one four weeks before death, the treatment having been discontinued when the pneumonic process appeared. Pneumonia in phthisis commonly presents itself in three forms, the fibrinous, caseous and catarrhal. The fibrinous was not observed in any of the cases. Eleven of the cases closely resembled the catarrhal, and yet there were marked differences. The exudate was cloudy, gelatinous, resembling the caseous but without its character; frequent vacuoles were seen, with a tendency to coalesce, a similar appearance to that presented in gangrenous pneumonia.

DEATH FROM KOCH'S LYMPH.—PROF. GRASSET, of the Hôpital Saint Eloi (*La Semaine Médicale*, January 21), reports the death of a young man following the lymph injection. The patient presented the signs of a circumscribed pleuropulmonary tuberculosis situated in the upper portion of the right lung, that was not accompanied by fever. The injection produced a rapid change for the worse, with the formation of large cavities, and the rapid extension of the tubercular process through the same lung and to its fellow. A careful description of the autopsy is given with an account of some pulmonary lesions that they attribute to the lymph, among others the "injection pneumonia of Virchow."

The writers conclude that the lymph converted an apyretic circumscribed tuberculosis into a case of "galloping phthisis," with severe hæmorrhage and high temperature. The patient died ten days after the injection.

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SATURDAY, FEBRUARY 21, 1891.

THE REPORT ON MEDICAL EDUCATION.

The seventh Report on Medical Education of the Illinois State Board of Health, just received, is the most complete work of its kind that has ever been issued by the Board. It includes not only all the medical colleges in the United States and Canada, as heretofore, but a summary of the requirements in foreign countries as to preliminary education, a list of the teaching institutions and their requirements in all foreign countries, and the regulations in these countries as regards the license to practice.

It is evident from the report that there is an upward movement in higher medical education, and it gives to the Chicago Medical College the credit for having taken the first step in this country for the three years' graded course—in 1868. It was not until 1881, however, that there was a decided movement in this matter. In this year the Illinois State Board of Health first classified the medical colleges of the United States and Canada in a Report on Medical Education. One year before this the Board had adopted its schedule of minimum requirements, to go into effect after the session of 1882-83. Since 1882 the movement for higher medical education has acquired more and more momentum, as will be seen from some figures taken from the Report. In 1882 there were but 45 colleges requiring certain educational qualifications for matriculation; in 1886 there were 114; in 1889, 117; in 1890, 124; and now there are 129. In 1882 the number of colleges requiring attendance on three or more

courses of lectures before graduation was 22; 41 in 1886; 47 in 1889; 64 in 1890; and 85 at present. Since 1880 the length of the lecture terms has been increased from an average of 23.5 to 26.3 weeks. In 1882-83 there were eight colleges that had lecture terms of but sixteen weeks. In 1882-83 only 42 colleges had terms of six months or more; in 1883-84 the number was 49; in 1889-90 it was 76; now it is 111.

One of the very suggestive features of the Report is a table showing the results of the examinations by the medical examining boards of Alabama, Minnesota, New Jersey, North Carolina, South Carolina and Virginia. Of the institutions represented before these boards 77 are in the United States, 5 in Canada, and 12 are foreign. Our 77 colleges were represented by 1,183 candidates (graduates), of whom 898 passed and 285 failed to pass. It is noteworthy that there is a great difference in the percentage of rejections before the different boards. Excluding the results before the New Jersey Board, which examined only 11 candidates, the Alabama Board rejected 7.84 per cent., the Minnesota Board 29.81, the North Carolina Board 20.64, and the South Carolina and Virginia Boards 28.82 and 29.51 per cent. respectively. The variation is not so great, however, as in the case of the nine Prussian examination commissions in 1890, the extreme limits of rejections before these commissions being 9.3 and 40.09 per cent. It is suggested in the Report that the several State boards hold a meeting for consultation, and that they adopt some plan by which examination papers may be exchanged, since it is important that the work of these boards should be as uniform as possible.

Two tables show the marks of the candidates rejected by the Virginia Board in September, 1890, and of the candidates that passed the New Jersey Board in October, 1890. It is a somewhat remarkable fact that a non-graduate received the highest mark of any candidate rejected by the Virginia Board. The names of the colleges from which these candidates were graduated are given. It is suggested that each board of examiners prepare a table of this kind at each examination, since the publication of such statistics will undoubtedly have a powerful effect on colleges. The lowest marks received by the rejected candidates were in chemistry, anatomy and

surgery. Before the New Jersey Board the lowest average (by successful candidates) was in surgery and surgical anatomy.

The Report calls attention to the value and increasing number of courses preparatory to the study of medicine, now offered by some of the largest universities in the country. There is undoubtedly a tendency towards beginning the education for the work of life earlier, and it is now more than ever recognized that the foundation for a proper study of medicine should be laid before the student actually begins to study medicine.

The Report is earnestly commended to the careful attention of all the colleges, as well as to all interested in higher medical education. It shows that there is no longer any doubt that four years of medical study and three courses of lectures is to be the rule in this country until a still higher standard is adopted. Some of the colleges have arrayed themselves against the higher standard. It is evident they must accept it or join the long roll of extinct medical colleges.

THE SUPPRESSION OF SYPHILIS.

It will be of no small interest to our philanthropists—and there are not a few in the ranks of our profession, be it said to our credit—to learn that the outcome of measures put forth of late years on the continent of Europe, with regard to the regulation of prostitution, have proved unavailing, from both a moral and sanitary point of view.

Morally, the effort to regulate—and thereby, in a measure, stop—the vice of prostitution, has only resulted in a more than compensating clandestine recourse, which appears more penetrating in its effects, and evil in its consequences, than maintained previously. And through this result, and in the aversion of the syphilitics in the regulated houses to being hospitalized for long time as such, it is believed that a wider dissemination has been given to this poison.

So thoroughly convinced upon this point is a recent writer to the *Westminster Review* that his one conclusion is this:

As a means of lessening the amount of the diseases associated with the practice of prostitution, the system of legal recognition, toleration, and regulation, always has proved and always must prove a complete failure.

This only tends the more to illustrate that law

cannot answer for enlightenment; that progress in the direction of moral and physical elevation of the race must ever depend upon a proper and widely-extended teaching. If ignorance of danger does not immediately lead to syphilitic infection in all or many cases, then that carelessness and animalism born where ignorance and sin prevail is accountable for all the other factor fails to cover.

Such training as will in the best manner open to the mind of "budding" youth the principles of sexual hygiene will no doubt prove—when it becomes sufficiently recognized—the most successful means of combating, not only this, but kindred influences of a widely-evil nature.

PROPHYLAXIS.

As a means of markedly invigorating the entire organism, and rendering thereby the system less prone to the influence of all external disease-producing agencies, an English physician reports, in a recent number of the *British Medical Journal*, the benefits of a daily morning cold bath. The bath used is *cold*. Often the ice has to be broken before the bath can be taken. Then the skin is toweled thoroughly. This physician says he never has a "cold;" never wears an overcoat—whatever the weather may be; has had no illness for many years; and would as soon think of stopping his meals, as to drop off the customary cold "tubbing."

In this connection might be mentioned the still more radical system of FATHER KNEIPP, the village priest of Voerishofen, Bavaria. It is said that he is well-regarded by the medical profession, and that many doctors go to him to learn his method of cure and care. The features of this so-called method are not at all new of themselves, and it is more the combination of requirements, together with the rigidity of procedure, which commands attention.

FATHER KNEIPP is simply a health reformer, and as such he declares strongly against all woolen garments next the skin. The under-clothing he recommends is made of strong, coarse linen. Next of his requirements is the cold bath, which is to be taken quickly, and without subsequent drying of the skin. The linen garments are to be put on at once, while the moisture of the bath is still upon the body.

Then comes the practice of walking or running barefooted in wet grass in cold weather, or in freshly-fallen snow. The village of Voerishofen lies in a valley where green meadows abound, and is therefore particularly adapted to this form of exercise. After running in the wet in this fashion the patient puts on coarse linen socks, and boots, and walks briskly for a spell. Then as to internal attention tea and coffee are absolutely prohibited, and animal food is discouraged. Bread, fruit, vegetables and milk are the substances permitted. "There are few better meals," says this man, "than plenty of fresh fruit and a piece of bread."

The patients are advised to drink before eating, never while eating, and after eating only when it seems necessary; and then moderately. Hard beds; cool, well-ventilated rooms; and the use of good things—without their *abuse*—quite completes this hygienic plan.

UNNA'S PASTES AND PASTE-STICKS.

LASCAR has contributed an article to the *Pharmaceutical Record*, January 5, giving the results of a vast number of trials with all the ointment bases, new and old, especially with the gelatine ointments and pastes of UNNA. Many of the latter have as their base amylum and gum arabic, and UNNA has found it serviceable to bring such pastes to a consistency so that they can be formed into sticks, and he is in the habit of incorporating in them a variety of medicaments, as iodoform 40 per cent., salicylic acid 10 to 40 per cent., resorcin the same, corrosive sublimate 5 to 10 per cent., oxide of sulpho-carbolate of zinc 20 per cent., or pyrogallie acid 40 per cent. These paste sticks require to be moistened when applied to the skin. They are not to be confounded with the salve-sticks which resemble the well-known cosmetic sticks of French origination. Their consistency, however, is about the same as that of the ordinary cosmetic stick, and their base is spermaceti or wax with olive oil. The paraffine oils are not suitable for these purposes.

One word in regard to the gelatine unguents of UNNA may be added here from the observations of LASCAR. Being an entire novelty to him, he encountered no little difficulty in obtaining a superior article. He used the Cox gelatine and macerated it with cold water until it swelled,

then heated it in the water-bath and added 10 per cent. of glycerine, then added a concentrated warm solution of Russian isinglass, in the proportion of 1 to 4 of the gelatine, the product being a glycerogelatine that dried more quickly than any other combination experimented with by him, and that left a firmer coating on the skin when applied directly thereon.

DOCTORS AND ADVERTISING.

The *London Daily News*, in an article with the above caption, puts in a special plea "regarding the severity of the unwritten law of professional etiquette." It claims that medical men "are constantly under suspicion of advertising themselves when they are really doing nothing of the sort." "If the committee of the local literary and scientific institute," says our secular brother, "will print the name of 'Dr. Abernethy Astley Cooper Jones' in big type, with a whole row of initials after it, is it fair to make him responsible for that?" Aye, there's the rub! Were the capitals, as we suppose them to have been, the measure of self-conceit, or only the expansion of the manager's admiration? Or did they act as a bait for the public, pretty much as "The biggest show on earth?" We do these things much better in America. We are careful never to submerge self in profession, college, hospital or association. Happily, too, we are more ingenious in our methods and have a much wider choice, such as the carefully written interview, with its patronizing tone and convenient avenues of escape; the society item, with one's diamond-bedecked wife and stunning equipage; the summer movement to secure a much-needed rest; the fag-end of "Among the distinguished persons present we noticed;" the summons from a distance or an enormous fee; a gratuitous diagnosis, broadcast among the laity; and last of all, for even the humblest brother we have provided the anecdote and the lugubrious office of pall-bearer.

A medical correspondent of *The Lancet*, quotes the *News*, confesses to finding "intense pleasure and relaxation in addressing an intelligent audience," but he had to endure "the darts of slander." Is it possible that "the intelligent audience" can have no redress in a damage suit? But oh, men of many talents! these are the struggles of genius, and we need not multiply exam-

ples. Perhaps your wares are no better than your customers. Wise men of the East, know ye not that there is a way to sail under false colors, notwithstanding your incorruptible newspapers, your immaculate municipalities, and your poor but honest street-sweepers? Many know the route, and many have returned safely to a haven of comfortable competence.

A friend of this luminous man of "intelligent audience" proclivities, "can make ten guineas by one evening address, and earn as much in an hour and a half as his detractors can do in a week, but owing to the intolerable priggish attitude of his fellow practitioners, he is obliged even to cease his gratuitous efforts on behalf of the churches, chapels and local charities." We hope, persecuted man that he evidently is, that he has never bored his hearers or made them a means of improvement in oratory. Demosthenes may have been (still, we do not know), more considerate in betaking himself to the sea-shore. However, despite the temptation, we shall spare him our Western story of "poor pay and poor preach."

Briefly and seriously, in regard to the whole matter, let us state that these "reading notices" which we have in mind are costly, sometimes profitable and not infrequently disastrous. To the adventurer and charlatan there may be a necessity for elbowing, but society in the one case has furnished him with the crowd, and the profession in the other has begotten for him the confidence. To our weak brother we can only say that medicine as a vocation, being personal in its limitations, cannot be over-lucrative. Rather say in its proper column what you desire without fear of the blue pencil, and take your place among the other honest tradesmen.

LARGE BILIARY CALCULUS DISCHARGED THROUGH AN UMBILICAL FISTULA.

In the *New York Medical Journal*, January 31, DR. COLEGROVE reports the passage of an extraordinarily large biliary calculus by the way of an umbilical fistula. A lady, aged 83, had an abscess around the umbilicus, attended with a great amount of disturbance, pain, loss of sleep and appetite; it communicated externally by means of a fistula, through which pus was discharged for a week or more. One night she was suddenly taken with an increase of the pain, so intense that she be-

came collapsed; with this there was the extrusion, through the umbilical fistula, of a calculus measuring four inches in circumference. Two months later the fistula had healed and there was a complete absence of local tenderness, and the patient was restored to her former measure of health.

EDITORIAL NOTES.

THE OFFICE OF CORONER.—The *London Law Journal*, "referring to the approaching abolition of the office of coroner throughout the United States," says: "The coroner's inquest in an average American State seems to have been simply a costly and tedious way of doing nothing; the verdict of the jury was not only not conclusive, it was not even evidence, and the subsequent trial proceeded without any reference to it whatsoever." All this is written in the past tense, as of an accomplished fact, and without the theory of the preliminaries of an indictment. Meanwhile the Massachusetts experiment of medical examiners works admirably, and has stimulated reformatory discussions in our well populated communities.

It is pertinent to allude in this connection to the usage of most European nations, which is to commit "the sudden death inquiries" to the public prosecutors, with the option of medical aid. Here, as everywhere in the civilized world, the certificate, barring suspicions of crime or the fixation of responsibility, is held to be final. The ruling of the law appears to be that an opinion, however erroneous, cannot be a misdemeanor even in the mildest sense of the term. Were this otherwise, but few articles on medical education would need to be written, since none would be rash or Quixotic enough to court an unnecessary doom.

THE WORLD'S CONGRESS AUXILIARY OF THE WORLD'S COLUMBIAN EXPOSITION.—Extensive preparations for International Congresses during the Exposition are being made by the World's Congress Auxiliary of the World's Columbian Exposition. The officers of the Auxiliary are Charles C. Bonney, President; Thos. B. Bryan, Vice-President; Lyman J. Gage, Treasurer; Benjamin Butterworth, Secretary. These officers have been working three months on the subject in hand, and have presented to the directory a report showing that they had enlisted the sympathy

and coöperation of distinguished men in politics, science, religion, education, moral and social reforms, literature, law, and the artistic and learned professions. The work outlined is on the broadest scale, and congresses of the representatives of all the branches indicated have been provided for. It is the intention to bring to Chicago not merely a few distinguished people, but a large number of cultivated and intelligent persons from all parts of the world. Much difficulty, the report says, was experienced in the work of forming a list of standing committees and assigning and specifying their work. The standing committee on Medical and Surgical Congresses, including Dentistry, Pharmacy, Public Health, and Private Sanitation, with a special committee for each organization of this class—Dr. N. S. Davis, Dr. H. A. Johnson, Dr. H. M. Lyman, Dr. J. S. Mitchell, Dr. R. Ludlam, Dr. R. N. Foster, Prof. Oscar Oldberg, and Benjamin Butterworth, Secretary.

ARMY MEDICAL EXAMINATION.—Surgeon-General Sutherland, of the U. S. A., has issued the following notice:

An Army Medical Board will be in session in New York City during April, 1891, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies.

Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before April 1, 1891, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between 21 and 28 years of age, and a graduate from a regular medical college, as evidence of which, his diploma must be submitted to the Board.

Further information regarding the examinations may be obtained by addressing the Surgeon-General U. S. Army, Washington, D. C.

NICARAUGUA CANAL HOSPITAL AT GREYTOWN.—A hospital has been organized at Greytown, having 125 beds. It has its regular staff of surgeons, apothecary, trained nurses and hospital steward. Its roof and sides are constructed of corrugated iron with a view of minimizing the dangers by fire and febrile infection. Every suitable modern hospital appliance has been requisi-

tioned and supplied. Subsidiary hospital stations have been established up in the interior at two points where large bodies of canal workmen are employed. These have an assistant surgeon and druggist at each.

REMOVAL.—We regret to learn that by reason of the ill health of his family Dr. James A. Lydston, late Chief of Eye and Ear Department of the Pension Bureau, Washington, D. C., has been obliged to relinquish the Professorship of Chemistry in the Chicago College of Physicians and Surgeons. He will resume the practice of his specialty in Denver, Colo.

LONGEVITY IN THE SOCIETY OF FRIENDS, ENGLAND.—A recent report of the vital statistics of this Society in the United Kingdom is commented upon in *The Lancet*, January 3. The membership of this body is stated at 15,500, and the mortality during the past three years is given at an average of 256 deaths per annum, or about 16.5 per 1,000. A remarkable feature of this mortality is the high age of the deceased: of the 769 persons dying in three years, 480 or 61 per cent. were 60 years old or upwards. Another noteworthy point is the small mortality among young children. In the year 1889, there were only fifteen deaths of children under 5 years of age. This statement may be taken to show the abnormally low rate of mortality, but in the absence of statistics showing the number of persons living in the various age periods, it may also be taken to show—that which is probably the true state of the case—an abnormally small number of young children in the Society. The *Lancet* very properly points out the desirability of making such future reports more instructive by a statistical division by periods of age of the 15,500 members, so many of whom are given to lives of peace, sobriety and good works.

THE MEDICAL SOCIETY OF THE MISSOURI VALLEY.—The next meeting of this Society will convene at Omaha, Neb., March 17, at 7:30 P.M. It has an enrollment of about 300 members. The Secretary, Dr. F. S. Thomas, of Council Bluffs, Ia., will be pleased to communicate with those who propose to present papers at that meeting.

PROFESSOR PFUHL, Professor Koch's son-in-law, is to have charge of the new institute for experimental medicine in St. Petersburg.

TOPICS OF THE WEEK.

THE PROGRESS OF SURGERY IN 1890.

In the last year there has possibly been a slight lull in the cumulation of surgical discoveries, and yet we are unable to look back upon the progress of the year that has just expired without feeling that there is ample ground for congratulations to the medical profession upon the strides that have been made.

The great event of the year was the Medical Congress at Berlin, where the large attendance of men most prominent in our art and science, from all parts of the civilized world, brought together a wealth of facts and views that are now crystalizing into a valuable mass of information.

There has been noticed in the year gone by that reaction which was bound to follow the enthusiastic prevalence of intra-abdominal operations during the last few years. The matchless skill of the leaders in these procedures has taught us a technique that can scarcely be improved upon; while the number of operations performed has become less, through more perfect discrimination in the selection of cases absolutely requiring such measures. In the matter of operations for the relief of disorders due to inflammatory conditions of the vermiform appendix, the main points developed have been chiefly in the line of improved diagnosis, and in a general belief in the advisability of early interference.

The study of intestinal anastomosis first evolved by Senn has been taken up by a host of men, though, strange to say, its practical applications are still limited too much to our own country. The monograph written by Professor Senn upon the subject of the Diagnosis and Operative Treatment of Gunshot Wounds of the Stomach and Intestines, bids fair to become one of the classics of surgery for years to come. No better illustration of the progress made in this domain of surgery can be given than the brilliant results obtained by Professor Bernays in a series of seven cases of gunshot wounds of the abdomen, which formerly would have been regarded as hopeless and left to die without surgical interference.

The methods of skin grafting and transplantation devised by Thiersch have proven their value in many hands during the past year, and now are fully admitted among the established surgical procedures of common occurrence.

Mr. Horsley's experiments in the transplantation of the thyroid gland of animals to the human subject have been followed by a practical application of the procedure, and bid fair to add one more to the many splendid results attained by this indefatigable experimenter.

In the surgery of the joints a more conservative tendency is becoming manifest; and in Germany, especially, the injection of iodoform emulsions in tuberculous joints has been employed with much success as a substitute for more radical procedures.

Among the improvements brought about in the technique of special operative procedures, the bloodless method of amputation at the hip joint, devised by Professor Wyeth, of New York, and performed with success by himself and others, takes high rank.

Operations upon the nerve-centres and the nerves themselves have greatly multiplied, and operations of un-heard-of magnitude have this year been reported, by which the brain and cord have become a far wider operative field than had ever been previously thought possible.

The discovery with which Koch startled the medical world a few months since has not been sufficiently developed to permit of positive deductions regarding its value in the various forms of surgical tuberculosis, although from present indications it will supersede all other methods for the treatment of lupus.

Such are a few of the results of the past year, and, in this marvellous age of progress, we are left to wonder at what we may have to chronicle for another year, though we are conscious that the last one has marked a decided era of improvement in our methods and knowledge.—*International Journal of Surgery.*

ANOMALIES OF BRAIN AND SKULL IN CRIMINALS.

Professor M. Benedikt having commenced to study anthropologically the "great criminals" of Vienna, has communicated some results of his examination of the brain and skull of Hugo Schenk, a notorious murderer of women, to the *Wiener medizinische Blätter*, January 1, 1891. The brain presents much that is interesting. In each hemisphere the internal parieto-occipital fissure shows no direct adjunction to a common stem with the calcarine, but enters the latter by an irregular lateral offset. The calcarine sulcus communicates with the fissure (termed "limbic" by the author) separating the gyrus hippocampi from the temporal convolutions. This limbic sulcus further joins the collateral, and by its rectilinear form evidences aplasia of the gyrus hippocampi, as has frequently been observed in epileptics. The separation of the gyrus hippocampi from the lobulus lingualis by a fissure, instead of conjunction by a wide bridge, is entirely opposed to the type of gyrencephalous animals and of normal man; it always points to a great disturbance in the balance of the constructive force. The confluence of the calcarine fissure with the limbic must also be regarded as a stigma of high grade. On the mesial surface of the left hemisphere aplasia of the quadrate lobule is noticeable through operculation. On the right hemisphere a branch of the collateral fissure courses around the lower outer margin and joins the first temporal sulcus. On the outer surface of this hemisphere the anterior central and the angular are the best developed gyri. The outer aspect of the left hemisphere reveals arrested growth of the frontal lobe, with high development of the two central gyri. A double connection of the central fissure with the first frontal sulcus insulates the lower part of the upper half of the anterior central convolution. The parietal lobe and two external annectants are markedly hypoplastic. In strong contrast therewith is the bulky development of the occipital lobe and adjacent parts of the second temporal convolution. This very unequal development of the various brain segments indicates defective cerebral equilibrium. Taking into account the extraordinary development of the sexual

passion in this murderer, it was specially interesting to discover what parts of the brain showed a preponderance of growth, and to consider whether those parts could be associated with the cortical sexual life. In this case it would appear that the most important seat of the cortical sexual existence is in the left occipito-temporal lobe. The cranium bears as strong evidence of degeneracy as the brain; it is grossly asymmetric—the right fronto-parietal and fronto-temporal and left occipito-parietal and occipito-temporal regions being prominent, and the whole base of the occiput, particularly on the left side, bulging downwards. Internally and externally the cranial sutures are almost obliterated.—*British Medical Journal*.

THE LEGAL VIEW OF INSANITY COMMITMENTS.

Judge David McAdam, the President of the Society of Medical Jurisprudence (New York), in a recent discussion said that the law relative to commitments of insane persons was not generally understood. He would venture the assertion that of the 17,000 persons now in custody in New York State on charges of insanity not more than 1,000 had been committed according to process of law. He declared that a certificate signed by two physicians and attested by a judge did not constitute a process of law. Before a person could be legally deprived of his liberty he was entitled to a hearing, a trial before a jury, and an adjudication of his case.

The common law defined what should be done in such cases. The statute law merely defined certain things that should not be done. A magistrate's indorsement on a certificate of insanity signed by two doctors simply attested the respectable standing. His signature added no force to the commitment, and should a person thus committed prove to be sane, he or she would have a good cause of action against the doctors for perjury, conspiracy, and civil damages.

BEER-DRINKING EXTRAORDINARY.

Beer-drinking amongst students in Germany and other Continental countries is proverbial, and we may say that the average Englishman is a beer-drinker if not a teetotaler. In Ireland and Scotland alcohol in the form of spirits is the chief beverage. In the prosperous times of 1873 and 1874 in this country, the working collier was said to have forsaken his beer and taken to drinking champagne, but the ensuing depression soon put an end to this. Now, however, with a return of prosperity in the coal trade, we find his beer-drinking propensities developing. An extraordinary state of matters was proved to have taken place at Ince, near Wigan (during an inquiry by Mr. Brighouse, the county coroner, into the death of a man who had been drowned in the Leeds and Liverpool canal). A comrade of the deceased stated that he had seen him the previous afternoon, and up to that time he might have had a dozen pints of beer (six quarts). At night they had two glasses, and afterwards four small glasses of whisky. It was further shown that in the course of the afternoon and evening the deceased and another man had a wager as to who could drink three pints of beer in the shortest time, and that he drank

these three pints in under five minutes' time—in fact, in half the time it took the other man. No wonder this man, when he started to go home, lost his way in the darkness and fog, and that when he fell into the canal he was unable to help himself out. The beer drunk by the Germans and Bavarians is a much lighter beverage, and therefore probably contains less alcohol. Could not the British brewer concoct a beverage which would be less intoxicating? It is a popular notion that no harm can result from the use of beer, that delirium *a potu* never follows its employment. But this is a delusion; gastric and hepatic derangements are common from its abuse, and in the cases of continuous beer-drinkers, such as beer-sellers and draymen, delirium tremens is not unknown.—*Lancet*.

THE PAUPER INSANE OF NEW YORK STATE.

The bill before the legislative bodies of New York, appropriating the necessary money for carrying into effect the law passed last year making the pauper insane a State charge, has probably at the present writing become a law. For a wonder, party lines and selfish schemes have been inoperative. When New York decided last year to remove the insane from the poorhouses and place them in State asylums she ought to have provided the funds for making the transfer. But reforms move slowly. Those who had charge of the bill of 1890 felt that they had done the best they could in securing its passage without the means to make it effective. This year they have introduced the supplemental measure. The appropriation asked for is a modest one, while the amount of good which it will conserve can hardly be over-estimated.

A MEMORIAL TO PIROGOF.

During the Congress of Russian Medical Men recently held at Moscow, a sketch of the proposed memorial by the Russian Academician, Mr. Sherwood, was exhibited in the hall of the University. The great surgeon is represented as seated on a chair, with a skull in his hand and an open book at his feet. The sides of the pedestal are adorned with crowns of laurel, and on the front of it is the inscription in Russian, "To Nicolai Iwanowitsch Pirogow, the Thinker-Surgeon. 1810-1881."

LEPROSY IN RUSSIA.

The municipal authorities of Riga are about to erect a leper-house at a distance of from six to seven versts from that city, at an estimated cost of 55,800 roubles. This includes a house for the medical superintendent and one for the warden, besides a post-mortem room, etc. Although the number of lepers in Riga and its neighborhood amounts to about 100, the new lazaretto will contain only 40 beds. As isolation is not compulsory, it is thought likely that accommodation thus provided will be sufficient for the lepers who voluntarily seek admission. It is expected that a hospital for lepers, with accommodation for 40 or 50 patients, will be opened some time in the spring, at Nennal, a place about 70 versts from Dorpat. A branch institution, with 10 or 15 beds, will also be established in the immediate neighborhood of that city, which will serve the purpose of a receiving house for the hospital at Nennal.

PRACTICAL NOTES.

SCIATIC TABLETS.

- R. Tinct. colchici
Tinct. cimicifugæ } āā, m. ʒj. ℥.
Tinct. aconiti
Tinct. belladonna }
S. One tablet.

—*Star on Nervous Diseases.*—*Pharm. Record.*

AMYLHYDRATE.

The dose of this liquid is about a drachm, but it is not very soluble in water. A small teaspoonful may be given in a glass of beer, or the following may be used:

- R. Amylhydrate, ʒij.
Aq. destill., } āā, ʒij.
Aq. flor. aurant., }
Syr. cort. aurant., ʒj. ℥.
Sig. One-half at night.

—*Correspondenzblatt f. Schweizer Aerzte.*

ARREST OF WHOOPING COUGH BY MANIPULATION OF HYOID BONE.

Naegely in *La Semaine Médicale* September 3, reports on a new manipulative method of arresting the paroxysms of whooping cough and of relieving neuralgia of the fifth nerve. Over fifty patients have been treated successfully by the following procedure: the operator stands in front of the patient and with his thumbs elevates the greater cornua of the hyoid bone, a purchase for the index fingers being obtained by resting them behind and above the ears of the patient; the other fingers rest upon the neck. Relief having followed the use of this method in a number of cases of pertussis, Naegely next applied it, with very general success, in a number of other cases of nervous disorders, such as neuralgia of the fifth nerve, migraine, globus hystericus and nausea of nervous origin. According to his experiments, a single application of elevation of the hyoid and larynx, maintaining them in that position for a minute to a minute and a half, has frequently sufficed to remove the pain or distress completely but, in some cases the procedure has had to be repeated several times. The scientific explanation of such results as these is not very tangible; but Naegely inclines to the opinion that those results depend upon one of those phenomena of inhibition, so well formulated by Brown-Séquard, but the exact mechanism of which remains to be determined.

NIGHT TERRORS SUCCESSFULLY TREATED BY BELLADONNA.

Dr. Lorenzo Hale, of the *Albany Medical Annals*, writes in its December issue regarding the

epileptiform nature of the night terrors of children. A certain proportion of these cases are beyond question an evidence of nocturnal *petil mal*, and those are the cases in which diurnal epilepsy ultimately supervenes. It was in this view that Trousseau's method of treatment by the administration of belladonna in epilepsy was tried in a severe and protracted case of night terrors. Various other means had been tried and had failed, when there were given the patient, a boy of 4 years, five drops of the tincture of belladonna at night. The dose was increased one drop each night until ninety drops were given at one time. The father of the patient was instructed to be careful and exact, and he was faithful and persistent. The results were most satisfactory; not one severe attack of the terrors was experienced after the beginning of the treatment. The severity of the attacks gradually diminished; when no symptoms whatever of the nervous trouble had appeared for more than two months, the dose was decreased ten drops each night. The relief was almost immediate, and there has never since been any recurrence of the trouble. The general final history of all such cases is less favorable, ending as they so often do in epilepsy proper, preceded by a lack of vivacity or a transitory beclouding of the intellect during the day as the disease extends from the night to the daytime.

INFANTILE DIARRHŒA.

- R. Ferri. sulph.,
Sod. salicyl., āā, gr. x.
Glycerinii, ʒij.
Aq. dest., ʒjss. ℥.

Sig. A teaspoonful every one, two, or three hours.

—*Canada Lancet.*

HÆMORRHOIDS.

The following is suggested in the *Medical Mirror* as an excellent salve:

- R. Cocain. muriat., gr. xx.
Morphinæ sulph., gr. v.
Atropinæ sulph., gr. iv.
Acid. tannic. pulv., gr. xx.
Vaseline, ʒj.
Olei rosæ, q. s. ℥.

Sig. Apply after each evacuation. Contents of bowels must be kept soluble.

SEMINAL EMISSIONS.

As a direct means of diminishing the frequency of nocturnal emissions, Bumstead recommends:

- R. Potassi bromidi, ʒj.
Tr. ferri chlor., ʒj.
Aquæ pur., ʒij. ℥.

Sig. One or two teaspoonfuls in water an hour after meals and at bed-time.

—*Canada Lancet.*

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

Koch's Treatment of Tuberculosis—The late Dr. Baillarger—A French Rejoinder to the Edmunds Bill—Another Cure for Consumption—Death of Baron Haussmann—An Important Legal Pronouncement—Is Cocaine, employed as a Local Anesthetic, Dangerous?

In this medical centre, as elsewhere, the new remedy for tuberculosis has been, and is being, extensively studied at the various hospitals. In a series of admirable lectures, Professor Cornil has given a faithful account of the results of inoculations on his own patients of the Laënnec Hospital. These results do not differ materially from those recorded by other observers, if we except the occurrence of albuminuria in certain instances. The dose did not generally exceed 1 milligram, and this commendable caution has been imitated by most operators in Paris. At the St. Louis Hospital a committee of physicians and surgeons has been appointed to report on the effect of the lymph on the various forms of tuberculosis, and their report will soon be forthcoming. So far as one can gather from the opinions expressed by those most competent to judge, the lymph, however marvelous its diagnostic properties in a large proportion of cases, and however great the amelioration produced by it in lupus may be, has not hitherto fulfilled, as a curative agent, the expectations raised at its *début*. A leading article in the *Paris Médical* of January 10 bears this significant title: "Résurrection du tubage du Larynx. Enterrement des injections de la lymphé de Koch." The writer recalls the successful resuscitation by O'Dwyer of an idea emanating originally from a Frenchman thirty-two years ago, and prophesies that thirty-two years hence Koch's treatment will, on the contrary, have passed into the limbo of things forgotten. The writer avers, on Debove's authority, that in fourteen indubitable cases of tuberculosis,¹ the lymph failed to provoke any reaction whatever. He, finally, adduces as a reason for the renunciation of the method the fact that, while the remedy has failed to cure a single case, it has already caused the death of more than twenty patients: seventeen in Germany, four in Austria, one in Paris and one in Brussels—one fatality occurring in a case of lupus.

M. Léon Petit (Soc. de Méd. Pratique, December 18, 1890) gives it as his opinion that Koch's lymph should be relegated to the laboratory until its range of action can be properly verified. Having, in collaboration with MM. Cérémonie and Gautrelet, found by analysis that the active prin-

ciple of Koch's liquid is an amine, he has succeeded in fabricating a lymph possessing identical properties. This product he has denominated "*la lymphé Française*," and he promises, when the results of experiments now in course of execution on tuberculous and normal animals of different species shall have been rigidly checked and controlled, that he will publish the mode of preparation of this new product.

The eminent alienist, Dr. Baillarger, died on the last day of 1890, at the ripe age of 82. One of the last survivors of the pupils of the famous Esquirol, whose interne he was at Charenton, he was for a long period physician to the Salpêtrière Hospital, and had attained to the crowning dignity of President of the Academy of Medicine. To his indefatigable industry we owe a great number of works on mental medicine which have become classical. These have recently been collected into two volumes, and they cover pretty nearly the whole range of the various manifestations of mental derangement. Melancholia with stupor, *folie à double forme*, hallucinations, general paralysis, the unfolding of the brain in mental development, the normal structure of the cortex, cretinism—these are a few of the subjects treated and elucidated by him in a masterly manner. His obsequies took place on January 4, in the presence of the newly elected President of the Academy of Medicine (Professor Tarnier), and a large gathering of representative men.

In a leader in the *Gazette Hebdomadaire* of January 10, M. Lereboullet calls attention to the warning issued by Professor Grandeau, Director of the Eastern Agronomic Station, on the danger attending the importation into France of American meat, and with it, of actinomycosis. It is stated that the supervision exercised at Chicago is totally inadequate, as two inspectors are responsible for the examination of an average of 10,000 oxen and 20,000 pigs a day. The Edmunds Bill conferring on the President plenary retaliatory powers on foreign nations whose traders export into the States articles intended for human consumption found to be adulterated, M. Lereboullet hopes that France will not, in her turn, be behindhand in instituting like measures to protect her citizens against the introduction of actinomycosis.

The *Éclat* attending the appearance of Koch's liquid in the therapeutical arena has not failed to stimulate the inventive faculties of would-be emulators of the learned Teuton. Some two months ago, the lay press, headed by the widely read *Petit Journal*, heralded, with a flourish of trumpets, the discovery by a hitherto unknown French practitioner named Mathieu, of the obscure village of Estissac, of an infallible cure for pulmonary consumption. The remedy was said to consist mainly of a kind of electricity generated by plants. The happy discoverer, finding Estissac

¹ Observed by Rémond at Berlin.

too narrow a field for the display of his energies, has migrated to Paris, where he has founded a clinique. He is said to be now earning 2,000 francs a day! Unlike Koch, he makes no secret of the composition of his remedy; anyone may read it in the *Annales d'électro dosimètre*. Here it is!

Formula No. 5 de M. Mathieu pour la tuberculose:

Electricité verte, 30 globules.
Pectoral¹, 30 globules.
P², 20 globules.
P³, 2¹⁰ aa, 10 globules.
C², 1¹⁰ aa, 10 globules.
Fébrifuge¹, 2 aa, 5 globules.
A¹, A² aa, 5 globules.
Vermifuge¹, 2 aa, 5 globules.
S¹ S², 5 globules.

The nature of the ingredients of this somewhat cabalistic remedy will, doubtless, prove a puzzle to your readers, but that does not, it appears, prevent M. Mathieu having hosts of adherents among the public of "la ville lumière."

If the late Emperor, Napoleon III, was not uniformly happy in his choice of instruments to carry out his will, no sanitarian will accuse him of having committed a mistake in selecting Baron Haussmann as Prefect of the Seine. Every one knows how this much-reviled functionary "haussmanized" Paris, creating, with an audacity we must all admire, new broad boulevards, uprooting rookeries and foul dens into which pure air never penetrated, and transforming Paris into the airy, well-lighted capital that now ranks second in Europe in point of health. This modest sanitary reformer has just died at the advanced age of 92. It says much for his integrity that, since his retirement in 1870, he had subsisted on a paltry pension of less than \$1,500 a year. His autobiography appeared recently. Being a Protestant, he was interred at the Church of the Redemption, in the rue Chauchat, with military honors.

Charlatanism of the good old-fashioned type is exceedingly rife in certain country districts in France, and many of these irregular practitioners attain to a degree of popularity the practical demonstration of which may, as in the following instance, lead their admirers into serious trouble. In the month of March, 1890, Jean Sibuet, bone-setter and Councillor-General of his canton, was sentenced to pay a fine for having illegally practiced the medical art. His enlightened admirers immediately convened an indignation meeting at a café, and opened a public subscription to cover the amount demanded of their idol by the exactions of a tyrannous law, any surplus to be devoted to the erection of a statue to Sibuet's father, who was also a famous bone-setter. The conveners of this meeting were, in their turn, prosecuted, and mulcted in various sums. This judgment being appealed against, the Chambéry Court has confirmed the finding of the lower tribunal, and

declared that the collecting of money for such a purpose is a contravention of the law.

On the 2d of December, 1890, M. Hallopeau reported to the Académie de Médecine a case of chronic cocaineism induced by a single injection into the gum of 8 centigrams of hydrochlorate of cocaine. From a study of this case, he believes himself authorized to deduce the following conclusions:

A single injection of cocaine, even in a small dose, may not only produce immediate toxic symptoms of a grave character, but may give rise to symptoms persisting for several months. These distant symptoms are analogous to those perceived sometimes immediately after the injection, viz.: obstinate headache, insomnia, numbness of the extremities, attacks of faintness, dizziness, prostration, loquacity and a state of great agitation. These accidents are chiefly observed in very excitable subjects.

In the current number of *La Médecine Moderne*, M. Reclus, who employs cocaine largely, endeavors to controvert these statements of M. Hallopeau, and asserts that, properly managed, this valuable anæsthetic is innocuous. The rules to be followed in the management of this drug are, according to M. Reclus, as follows:

1. The quantity of cocaine injected should never exceed 12 centigrams, 2, 4, 6, or exceptionally 8 centigrams sufficing for most minor operations.

2. Employ a *weak solution* (2 per cent.).

3. Avoid the introduction of the drug into the interior of a blood-vessel. The best way to avoid the evil consequences of such a *contretemps* is to push the needle into the tissue slowly, and while so doing to press on the piston rod at the same rate. In this manner, even if a vessel be pierced, only a small proportion of the solution can mingle with the blood contained in the wounded vessel.

J. H. B.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Experimental Koch Inoculations—Hypodermic Injections of Aniline and Sterilized Oil in the Treatment of Phthisis—The New York County Medical Association—The New York Medico-Legal Society and Hypnotism—American Electro-Therapeutic Society—Miscellaneous Items.

While it is, of course, far too soon to judge of the ultimate results of the treatment, the very extended series of experiments with the Koch inoculations which have now been carried on in this city have apparently been attended with effects for the most part corresponding with those re-

ported from Germany. There can be no question, however, that the warning note sent out by Virchow has very properly had the result of making our hospital physicians proceed with marked caution in the matter, and it is probably safe to say that in cases of tubercular meningitis, for instance, the lymph will not again be employed. There appears to be sufficient ground for the belief that pulmonary tuberculosis in the early stages of the disease is checked, and may be cured by the injections, and there seems to be a general agreement as to their beneficial effect in cases of lupus.

But even in lupus, according to Dr. P. A. Morrow, the well known dermatologist, while the observations made would seem to show that the results thus far obtained may be regarded as satisfactory and promising, they cannot be called conclusive in any sense as yet. There should be much hesitation, he claims, about declaring that there has been a cure effected in a case of lupus, as it is well known how prone the disease is to break out again after apparent disappearance. A relapse being liable to occur after six, twelve, or even eighteen months, he would not be satisfied that a cure had really been made until the patient had been under observation a very long time.

For some time past Dr. George F. Shrady, editor of the *Medical Record*, has been experimenting with the lymph on cancer cases at the New York Cancer Hospital, and it is even said that it has been used in leprosy in this city, but it does not seem at all likely that any very definite results will be obtained in such cases. William Degan, the consumptive selected by Dr. Shrady from the St. Francis Hospital to be sent to Berlin for treatment, has returned to New York, and is again at the hospital undergoing injections. It is reported that his condition is now considerably improved, but whether this improvement will continue or not is somewhat problematical, as it is thought that the disease was perhaps too far advanced in his case to afford ground of hope for the best results.

In New Haven, Conn., where the Koch treatment was employed for the first time in this country, the injections having been begun on December 3, Prof. Francis Bacon is reported as having said recently: "The original representation in regard to the curative effect of the lymph on lupus are confirmed, so far as the present experiments have gone, but I can hardly say as much regarding its effect on pulmonary tuberculosis. I do not care to express an opinion regarding each individual case, but I will say that there has been an improvement in the condition of the patients, or, in other words, that they are better than they were before the use of the remedy was begun. It is hardly time yet to demonstrate the full efficacy of the lymph, but enough is known to assure us that it is a most powerful agent."

For some time past very encouraging reports have been made concerning the treatment of phthisis at the House of Rest for Consumptives, of this city, by Dr. C. E. Bruce, and at the last meeting of the Medical Society of the County of New York that gentleman reported some of the results obtained by him, and gave an explanation of his method, the essential point of which, it seems, is the hypodermic injection of aniline and sterilized oil in increasing doses. The plan of treatment, he states, is the result of an extended course of investigation into the nature of the tubercle bacillus, and long before the announcement of the discovery of Koch's remedy, he was engaged, assisted by Drs. J. S. Healy and T. W. Rogers, in studying the effects of various substances upon the bacillus. He received his first clue, as it might be called, from a German medical journal, and this leading his thoughts in a special direction finally resulted in the experiments with the remedy named. These experiments have been very satisfactory as far as they have gone, but sufficient time has not elapsed to speak of the results at all definitely. Should these eventually prove as encouraging as Dr. Bruce hopes, he thinks a remedy will be in the hands of the profession which will be free from many of the objections which have been made against Koch's lymph. Thus, it is an entirely harmless material which can be readily furnished to any practitioner in the country, there being no necessity for culture, as in the case of an organic substance like the lymph. Its use can be safely undertaken without the special experiment and careful watching which the employment of the latter demands, and another point in its favor is that as far as the experiments thus far made with it go to show, it seems to be most effective in the advanced stages of phthisis, where the lymph is apparently least beneficial. Since the first of January patients side by side in the House of Rest for Consumptives have been treated respectively by the Koch and Bruce methods, and the results reported have been decidedly in favor of the latter. In this institution, it is to be remembered, that the subjects are, as a rule, in the advanced stages of the disease. The profession has naturally learned to be somewhat skeptical in regard to reported remedies in phthisis, but further developments in this matter will be awaited with interest.

At the annual meeting of the New York County Medical Association the following officers were elected: President, Dr. S. B. W. McLeod; Vice President, Dr. Wm. T. White; Recording Secretary, Dr. P. Brynberg Porter; Recording and Statistical Secretary, Dr. Augustus D. Ruggles; Treasurer, Dr. John H. Hinton; Members of the Executive Committee, Drs. Edward Sanders, N. J. Hepburn, Wm. B. De Garmo, and George T. Harrison. The report of the Statistical Secretary, Dr. Ruggles, showed the Association to be

in a most flourishing condition. One year ago there were 430 members on its roll. During the year it lost by death three members, including the President, Dr. Charles S. Wood, and by removal and other causes fifteen members. On the other hand, it received an accession of 171 new members, so that there are now on its roll 583 active members.

At the last meeting of the Academy of Medicine there was a general discussion on chronic cervical adenitis in children, under the auspices of the Section on Pædiatrics; the discussion on etiology, symptomatology and diagnosis being opened by Dr. A. Jacobi, that on medical treatment by Dr. Wm. H. Thomson, and that on surgical treatment by Dr. Frank Hartley. On this occasion Dr. Alfred L. Loomis was re-elected President and Dr. Edward L. Keyes was elected a Vice-President of the Academy.

At a recent meeting of the New York Medico-Legal Society a special committee on hypnotism, of which Dr. E. Morgan, Jr., was chairman, reported that after a year's consideration of the subject they regarded it safe to say that the following facts had been established:

1. Hypnosis, or artificial trance sleep, is a subjective phenomena, and may be self-induced through expectation alone, through fright, by religious ecstasy, or any enrapturing emotion.

2. Hypnotism is not in itself a disease.

3. Hypnotism is recognized in three stages—lethargy, somnambulism, and catalepsy. The transition may be immediate.

4. Hypnotism has been serviceable in medical and surgical practice, both as a therapeutic agent and in some cases as an efficient and safe anæsthetic.

5. The illusory impressions created by hypnosis may be made to dominate and tyrannize the subsequent actions of the subject.

In the latter part of January there was organized, at the New York Academy of Medicine, the American Electro-Therapeutic Association, composed of physicians in different parts of the country who are specially interested in the various forms of electrical medical and surgical treatment. The following officers were elected: President, Dr. G. Betton Massey, of Philadelphia; Vice-Presidents, Drs. W. J. Morton and A. H. Goelet, of New York; Secretary, Dr. Wm. H. Walling, of Philadelphia; Treasurer, Dr. Geo. H. Rohé, of Baltimore; Executive Committee, Drs. H. R. Bigelow, of Philadelphia, F. H. Martin, of Chicago, Wm. H. Hutchinson, of Providence, R. I., and C. D. Palmer, of Cincinnati.

The report of the Health Department of the city of Brooklyn, recently transmitted to Mayor Chapin, shows that the total number of deaths there during the year 1890 was 19,773, as compared with 18,480 in 1889. The deaths from phthisis amounted to 2,161, and from pneumonia

to 2,319. A much larger number of cases and deaths were reported from diphtheria than any other contagious disease, and not a single case of small-pox was reported. Fifteen thousand births were reported—about 1,000 more than in 1889.

The records of the State Board of Health show that, as usual, November was the healthiest month of the year. It has been found to be the case that invariably the death-rate in the State is lower in this than in any other month. The average daily mortality for the past five years has been 260, while that of November has been 225. In 1889 there were 42 less deaths daily in November than the daily rate for the year; in 1888 there were 52 less, in 1887, 21 less, and in 1886, 9 less per day. The average number of deaths per day in 1890 was 305, and during November 257, or nearly 56 less per day. From zymotic diseases the mortality in November, 1890, reached only 146 in every 1,000 deaths from all causes, and this is lower than the average for the month of November, which is 182 per 1,000.

The 26th of January was a proud and happy day for the Italian colony here. On this occasion there was inaugurated, with appropriate ceremonies, under the auspices of Baron Fava, the Italian Minister at Washington, the "Istituto Italiano," or Italian Home. This institution is located on Second avenue, and occupies a four-story building fronting on the avenue and a two-story building in the rear. Within these quarters are contained a hospital, with wards for both men and women; a benevolent bureau for the relief of the poor, a school for the purpose of preparing Italian children for the public schools, and a bureau for the protection of Italian immigrants and the promotion of Italian colonization. The idea of a benevolent enterprise of this kind has, for a number of years, been in the minds of the leading Italian residents of this city, but it was only when the Chevalier Riva—who is now the Honorary President of the institution—came here as Consul-General of Italy in 1888, that the project assumed definite shape. At his call more than \$20,000 was subscribed in less than a year by the Italians of the United States. This amount was considerably increased by the dues of those becoming members of the Institute, and the Italian Government, having been made interested in the patriotic scheme, sent a contribution of \$2,000. The promoters of the Home were therefore able, in September last, to purchase the property now occupied for \$31,500.

On the first floor of the Home are the manager's office, dispensary, pharmacy, waiting-rooms and an ambulance entrance. The second floor has rooms for the Secretary and other officers of the institution, a medical board room, a library and a reception room. The latter is a handsome apartment, gratuitously frescoed by a firm of Italian decorators, and contains a beautiful piano, the

gift of Italian piano-makers. All the rest of the furnishing of the room was presented by Signor Salvatore Cantoni, President of the Home, and among the pictures are portraits of Washington, Garibaldi, Mazzini, and the King and Queen of Italy. On the third floor are the hospital accommodations for women—twenty-seven beds in four rooms—and all facilities and conveniences for patients, physicians and nurses, and the fitting-up of this floor has been chiefly paid for by M. Barsatti, editor of the Italian paper *Il Progresso*, in memory of a deceased daughter. The fourth floor is similar in its appointments, and is designed for male patients. The first floor of the rear building contains a large assembly hall for the meetings of the institution, capable of seating 250 people, and it was in this that the inauguration ceremonies were held. On the second floor are rooms for the managing boards of the various departments of the institution, and a large room intended especially for sick Italian sailors. Altogether the arrangements of the new Home are very complete and satisfactory, and reflect much credit on its philanthropic founders. It is estimated that the property is now worth \$50,000, and there can be no question that the institution will accomplish a most excellent work.

In January there died at Flushing, Long Island, a Mrs. Stillwaggon, who was probably the oldest person in the State. She is said to have reached the age of 105 years and 4 months; it being stated that she was born on September 18, 1785. Her birthplace was Tarrytown, on the Hudson, and she came of long-lived ancestors, her grandmother, it is said, having attained the great age of 106. Until she reached the age of 96 Mrs. Stillwaggon did all her own housework and made her own dresses, and on her 102d birthday she made a cake for a church fair.

That inveterate smoking does not always shorten the span of human life would seem to be shown by the case of one Isaac Brandenstein, who recently celebrated his one hundredth birthday in this city. Although very moderate in the use of liquors, he states that he has smoked habitually and freely ever since he was 14 years of age. He can even now smoke most of the day, provided the tobacco used is of good quality, and his only complaint is that good tobacco is too expensive in New York. On getting up in the morning he goes down to the street door and smokes a couple of cigars, after which he eats his breakfast. Then he takes a pipe, and alternates this with cigars, with brief intervals of rest, until 6 o'clock in the evening, when he has supper. He does not take any meal in the middle of the day. He says he feels somewhat "weak and stiff in the joints," but on the whole his health is remarkably good for a centenarian, and on the last Day of Atonement, being a devout member of the Jewish faith, he went to the synagogue early in the morning

and staid there until night, and ate nothing whatever from 6 o'clock in the morning until sunrise on the following day. Still, notwithstanding all this, we would hardly advise anyone who was anxious to attain the age of one hundred years to smoke all day as the best way of attaining this end.

In regard to the agitation existing in various parts of the country on the oleomargarine question, Professor Charles F. Chandler, the eminent chemist, who was for a number of years President of the New York Board of Health, remarks very sensibly: "There is more unceasing and unreasonable opposition to this perfectly healthy and pure product than I know of in any other such direction. Oleomargarine is prepared from beef suet, and it contains precisely the same chemical constituents as butter made from cow's milk; the only difference is that it is produced by a chemical process entirely, instead of partly by the intermediation of the cow. The strong opposition to oleomargarine is instituted for the most part by the farmers who produce butter, aided by the dealers, who find larger profits from the sale of butter than they possibly could obtain from the handling of oleomargarine. The people who pretend to find fault with this beef suet product, however, find no fault whatever with precisely the same material in mince-pies or plum-puddings. Some of the State Legislatures have enacted very extreme laws against oleomargarine in deference to the 'farmer vote,' and the General Government has discriminated against it and against our poorer citizens by placing an internal revenue tax upon it—like the tax upon whisky and tobacco—presumably with the idea that its consumption is detrimental, like the too liberal consumption of tobacco and spirituous liquors. Really, it is 'politics' pure and simple that prevents our people from enjoying, at a nominal price, a perfect substitute and equivalent for butter, the high price of which renders the latter an unwarranted extravagance to many. And all for the votes of the farmers and dealers!"

The reports from the Saturday and Sunday hospital collection thus far received show the very handsome sum of nearly \$55,000, and the returns are still incomplete.

P. B. P.

STRYCHNINE IN SNAKE-BITE.—A controversy is raging in Australia on this subject. The treatment of snake-bite by the hypodermic injection of strychnia was introduced by Dr. Mueller, and evidence of its success has been adduced by other medical men who have tried the plan. Dr. T. L. Bancroft has found, by experiments on guinea pigs, that the method is useless. Recovery from snake-bite, it is well known, does imply cure, and it is not easy in particular cases to distinguish the one from the other.

SPECIAL CORRESPONDENCE.

Report of a Case of Malformation of the Female Generative Organs.

To the Editor:—Without going into the history of the subject or discussing the various classifications of uterine and vaginal malformations, I desire to report the following case:

The patient is 46 years old, married for many years, about 5 feet 10 inches in height, strongly built, and with a decided masculine appearance and voice. Her menstruation has always been regular and easy.

In November, 1890, she had a fall to the ground, alighting in a sitting posture, after which she complained of severe pain in the back and coccygeal region, and from these facts I was led to make an examination. The discovery which I made shed no particular light on the cause of the pain, but it proved to be a matter of interest to me, and explained to the patient the cause of her sterility. In making a digital examination I found the vagina to be roomy, and with two fingers I could reach its upper extremity, but I was wholly unable to find any trace of the cervix uteri. A bimanual examination proved the absence of the uterine body. While conducting this examination a forcible and expulsive contraction of the vagina took place, and at the same time the patient complained of excruciating pain in the back. In a few days I made the second examination, this time with a Brewer's speculum. After the blades were fairly well separated a contraction as above mentioned took place, causing great pain, and with such force that I feared the blades of the speculum would be bent or broken before I could run the button back, allowing the bladder to close.

From the facts recited I arrived at the following conclusion: The vagina and uterus are continuous, and there is no line of demarcation indicating where the vagina and uterus unite. It might be as well to say that there is *no* uterus, but the vagina is supplied with thick muscular walls, which are capable of wide dilatation and forcible contraction. J. T. McSHANE, M.D.

Carmel, Ind.

The Present Status of the Koch Treatment in Germany.

To the Editor:—I have just received a letter from Berlin, some quotations from which I think will be of special interest to your readers as indicating the present status of the Koch treatment in Germany. He says: "Dr. Koch's remedy is still with us, but becoming less popular daily, if I may judge from students and others who have an opportunity of witnessing the treatment. Beside the French and not a few German opponents who are animated by feelings of rivalry or the like, some there are of late who, closely observing the matter, do not hesitate to condemn the treatment as both fruitless, dangerous and unscientific, since it seems to diminish the patient's strength and physical resistance by its local and general powerful action, and hence a condition favorable to the extension of tuberculosis. Koch's announcement of January 15, besides the disclosure concerning the composition of the substance, gives little more than a repetition of his first declaration for the worth of his discovery. Quite positive indeed is his renewed assertion, but yet, he gives us no additional matter to substantiate his position and encourage the public. A friend of mine, candid and intelligent, who is taking a private course in physical diagnosis under one of Gerhardt's assistants, and seeing much of the cases, gives very unfavorable reports. An assistant of Bergmann's also informs me that the number of tubercular patients treated in his hospital has decreased from

some hundreds to a small fraction of one hundred. That of three test cases of laryngeal tuberculosis, with but little involvement of the lungs, under observation for some five or six weeks, and considered favorably at the beginning, two have died and the third is fast after them; that recently one case of lupus was operated upon surgically without any accompanying injection treatment. Bergmann says nothing against the Koch method, but this action is perhaps significant. I myself am inclined to place confidence in Koch and his opinion, with all due allowance for his personal bias, and think we should be very slow to condemn it until we know what he knows." At all events, it is better for the public to be disappointed now, even to an exaggerated extent, before more time and strength is spent in vain.

E. FLETCHER INGALS, M.D.

Chicago, Feb. 10, 1891.

Shall The Journal be Removed to Washington?

To the Editor:—As a member of the Association for thirty-six years, I am in favor of THE JOURNAL being published at Chicago. CHAS. G. BACON, M.D.

Fulton, N. Y., Feb. 10, 1891.

To the Editor:—Keep THE JOURNAL in the central city of the country by all means. No other city presents better advantages for making it a success than Chicago.

HUGH MCCOLL, M.D.

Lapeer, Mich., Feb. 12, 1891.

To the Editor:—The question of the best location for the publication of THE JOURNAL should be discussed with fair argument and common sense.

Does the advertising department greatly assist the financial success of a medical publication? To this question there is but one answer, and wherever published, its advertising pages would not probably be increased beyond their present number, if equalled.

Would the number of subscribers be increased if removed?

From no city could it be distributed more rapidly nor directly than Chicago.

Would the aspiring, disaffected authors of very important original productions *all* see their names at the head of papers in the first issue after the annual meeting of the A. M. A. if published in Washington, Kalamazoo, or Oshkosh? It seems there has been much nonsense in that line.

Looking at the subject from the standpoint of a country doctor, the editorial work compares favorably with the very best of medical journalism.

Let us keep it in Chicago.

O. A. REA, M.D.

Marmont, Ind., Feb. 12, 1891.

To the Editor:—I have read with much interest the discussion in regard to removing THE JOURNAL to Washington. The scheme—for it is a scheme—is not a new one; I know that certain medical politicians have had it in view since 1886. The chief idea in view has not yet been brought out in the discussion, and perhaps it is just as well to delay the exposure of it until the next meeting, in May. But as yet no one has put forward a single substantial argument in favor of removal.

The most frequently reiterated argument is that as THE JOURNAL is a national journal it should be published at the Capital of the Nation. This is well enough for Fourth-of-July talk, but it lacks a commonsense basis; it is silly, and its silliness has not even the doubtful merit of sentimentality. One may ask, why is none of the money of this country coined at Washington? for the coinage is a National affair. Why not do it all at the Capital of

the Nation? Harrisburg is the capital of Pennsylvania; Why do not Lea Brothers & Co. remove their business and their journals to the State Capital? For the simple reason that they are business men and know that the fact that Harrisburg is the capital of the State will not increase their business. If it were possible to move the Yellowstone Park to Washington there is no doubt that some would be in favor of such a move; and when sifted to the bottom it would be found that personal and private interests were at the bottom. Just so with the scheme to remove THE JOURNAL, as will be made clear when the matter comes up at the meeting in May. I think I know as much of the inside history of THE JOURNAL, and of this movement as anyone, and my information is for publication at the proper time.

But the question under consideration is a simple business proposition, and I wish to discuss it from that standpoint. The American Medical Association is in business as a publisher. No publisher can conduct a business successfully except in a business centre. There is no publisher in Washington. Why haven't some gone there "because it is the National Capital?" Because successful publishers are business men. There are several newspapers in Washington, but they cannot be compared with the Boston, New York, Philadelphia and Chicago papers. It would cost more to publish THE JOURNAL in Washington than it costs in Chicago. I make this assertion because I am familiar with printing office details.

For the benefit of the readers of THE JOURNAL that have not access to such information I will show them how many business (trade) journals are published in Washington as compared with Chicago. The following list is taken from Rowell's Newspaper Directory for 1890. Since it was published some other journals have been brought to Chicago from New York and places in the East:

CLASS PUBLICATIONS	IN CHICAGO.	WASH- INGTON.
Religion	51	1
Agriculture, Bee Keeping, Dairying, Horticulture, Livestock, Poultry	26	0
Medicine and Surgery	16	0
Deaf, Dumb and Blind	1	1
Children and Young People	7	0
Humorous	3	1
Law	4	5
Insurance	2	2
Real Estate and Immigration	2	4
Building Loan Associations	2	0
Science, Electricity, Mining, Engineer- ing, Mechanics, Milling	14	1
Numismatics, Philately	1	0
Sporting	10	0
Music and Drama	5	0
Fashions	3	0
Household	3	1
Army and Navy	0	2
Freemasonry	1	0
Knights of Labor	1	0
Oddfellowship	2	0
Other National Societies	3	0
Railway Employes	2	0
Miscellaneous Societies	4	0
Temperance and Prohibition	5	0
Negro	4	3
Commerce and Finance	18	1
Architecture and Building	6	2
Art, Decorating and Furnishing	1	0
Books and Newspapers	3	1
Brewing, Bottling, Liquors and Wine	6	0
Carriages	2	0
Clothing, Furnishing Goods, Tailoring and Ladies' Wear, etc.	3	0
Coal and Gas	1	0
Drugs, Paints and Painting	5	0
Exporting	1	0
Firemen	2	0
Furniture, Carpets, Cabinet Making, etc. Groceries, Confectionery, etc.	3	0
Hardware, Crockery, Glassware etc.	4	0
Hotels	3	1
Jewelry and Watchmaking	3	0
Inventions and Patents	0	2
Leather and Leather Products	4	0
Lumber	3	0
Maritime	1	0
Mercantile Pursuits	1	0
Metals and Machinery	4	0
Photography	1	0

	CHICAGO.	WASH- INGTON.
Plumbing and Sanitary	1	0
Postal	2	3
Paper Stationery Printing etc.	8	0
Railroads	5	0
Sewing Machines	1	0
Laundry	1	0
Brick-making	1	0
Tombstones	1	0

Further than this, many class journals that have the main office in New York have a branch office in Chicago, and do a large part of the business through the Western office. Many of these class journals are as national as is THE JOURNAL. Why are not more organs of business interests published in Washington? For the same reason that the same kind of publications in St. Louis are not taken to Jefferson City.

It has been said that the business management of THE JOURNAL under Mr. White is not what it should be. But the fact remains that the income of THE JOURNAL from advertisements is now 300 per cent. greater than it was when Mr. White took charge five years ago, when THE JOURNAL was unpopular with advertisers. The income from advertisements should be greater, but it cannot be until certain restrictions now in force are removed. If Mr. White were allowed to conduct the advertising business on the liberal basis of the *Lancet* or the *British Medical Journal*, the income from advertisements could be increased about 50 per cent. or more, in a year, and no one would be injured by it. As the matter stands now THE JOURNAL refuses many advertisements that would be taken by the best and most prosperous journals on earth—the *Lancet* and the *British Medical Journal*. To my own knowledge one of the most vigorous objectors to a more liberal policy in regard to advertisements is a professor in a two-course medical college. Such a man has no right to declaim about the *morale* of the profession until he resigns his Chair or induces his school to reform. No one can conduct a business of any kind on sentiment. No one can conduct a weekly medical journal in this country without advertisements.

It has been said that the list of subscribers to THE JOURNAL has not been increased to the extent that it should have been. The fact is, canvassers have been sent out, but each one has stumbled up against the "no commission for members by application," become disgusted and quit. No commission is paid for such subscribers, and of course no canvasser will work on such terms.

Again, the amount of trouble that has been caused by the fact that the Secretary and the Treasurer of the Association are almost a thousand miles from the office of THE JOURNAL has been and must be very great. Dr. Duglison and Dr. Atkinson surely know that I say this from no personal motive. But I am stating a fact, and what is necessarily a fact.

But there is another and a most important point. Should THE JOURNAL be removed to Washington, it will cease to be of value as an advertising medium to a very large percentage of its best advertising patrons, and it cannot replace these by others. Any one that knows even a very little about advertising and the business management of a journal can see this, because, with all the journals published in the East, it would be unbusinesslike for firms to make use of a Washington journal, and these firms don't do foolish things.

THE JOURNAL has the field in the West. If it vacate the field it has won to occupy one already more than full, its place here will be taken very soon, for Chicago will have a weekly medical journal. THE JOURNAL cannot afford to drop a substance to grasp at a shadow.

Finally, before it is determined to remove THE JOURNAL, and before the matter is brought up at the meeting, let us know who is to be editor in Washington. THE JOURNAL should have an experienced editor. There are no medical editors in Washington, for none of the medical men there have had editorial experience. Before going down into a well it is a safe plan to have a strong

man at the windlass. A tyro, however titled, has no place at the head of an exploring expedition.

WILLIAM G. EGGLESTON, M.A., M.D.

Springfield, Ill., February 16, 1891.

To the Editor:—If THE JOURNAL is to be removed from Chicago I am in favor of removing it to Pittsburgh. Next to Chicago Pittsburgh is the greatest railroad centre in the country, and this is a very important consideration in these times of blizzards and railroad obstructions; besides among our more than two hundred physicians, any one of whom is just as capable to edit a medical journal as any one of a like number of physicians in any other locality in the country, either North or South, East or West. But if THE JOURNAL cannot come to Pittsburgh, then I am in favor of it remaining in Chicago, for it was born, cradled and grew to be a man there, and there is where it ought to stay. It is also ably edited there, besides, Chicago is the most central place in the country. Transplanting sometimes does well, oftener not. Therefore, let THE JOURNAL remain in Chicago.

JOHN M. BATTEN, M.D.

Pittsburgh, Pa.

To the Editor:—In regard to the removal of THE JOURNAL to Washington I am of the opinion that it would be a great mistake. THE JOURNAL is not only centrally located, but is ably edited, and a financial success. Under all these circumstances I am of the decided opinion that it should remain just where it is.

SOLOMON MARKS, M.D.

Milwaukee, Wis., Feb. 17, 1891.

To the Editor:—In regard to the removal of THE JOURNAL—Washington is not centrally situated. The Capital should have been more centrally located. Let THE JOURNAL remain where it is.

P. C. REMONDINO, M.D.

San Diego, Cal., February 12, 1891.

MISCELLANY.

LETTERS RECEIVED.

Aetna, Tenn.: Dr. C. Slaydon.
Bethany, Mo.: Dr. T. B. Ellis.
Boston: Doliber-Goodale Co., Dr. A. C. Garratt, G. W. Campbell.
Bradyville, Ia.: J. B. Crain.
Brookport, N. Y.: Moore's Subscription Agency.
Buffalo, N. Y.: F. C. Schottin.
Burlington, N. J.: Dr. Wm. J. Parrish.
Burlington, Vt.: Dr. A. J. Willard.
Chicago: Kenyon Subscription Co., Dr. C. T. Parkes, Dr. G. Frank Lyndon.
Chilton, Wis.: Dr. D. La Count.
Cincinnati, O.: Dr. Wm. D. Hamilton, Dr. F. Dowling, Cincinnati Sanitarium, Robert Clarke & Co.
Council Bluffs, Ia.: Dr. J. C. Robertson.
Cuba, N. Y.: Dr. D. J. Willotson.
Denver, Col.: Jas. Black.
Detroit, Mich.: Parke, Davis & Co., Citizens' Savings Bank, Dr. E. L. Shurly.
Easton, Pa.: Dr. Chas. McIntire.
Eatons, O.: Dr. A. H. Stephens.
Evansville, Ind.: Dr. A. M. Owen.
Fort Dodge, Ia.: Dr. H. G. Ristine.
Fort Worth, Texas: Dr. A. Guthrie.
Friendship, Tenn.: Dr. J. A. Hinton.
Geneseo, Ill.: Dr. C. W. Brown.
Greencastle, Pa.: Dr. J. F. Nowell.
Hartford, Conn.: Dr. T. D. Crothers.
Hickory Creek, Texas: Dr. J. E. J. Stroud.
Indianapolis, Ind.: Dr. O. W. Pfaff.
Jersey City, N. J.: Dr. G. K. Dickinson.
Kansas City, Mo.: Dr. J. H. Thompson.
Kippie, Pa.: Dr. B. F. Frazar.
Lincoln, Neb.: Dr. G. O. W. Farnham.
Los Angeles, Cal.: Dr. L. B. Williams.
Louisville, Ky.: Cal. Fig Syrup Co., Dr. J. M. Ray.
Nashville, Tenn.: Dr. J. D. Plunket, Dr. E. M. Jenkins.
New York City: M. Volkman, Henry A. Riley, Merchants' Ex-

change National Bank, F. W. Christern, C. N. Crittenton, J. H. Bates, Chas. H. Phillips Chemical Co., R. W. Gardner, Thos. Leeming & Co., Dr. G. Darand, Publishers' Commercial Union, J. F. Madden, Herbert Booth, King and Bro., Med. Dept. Mutual Life Ins. Co., W. P. Cleary.

Paris, Ky.: Paris Medicine Co.
Philadelphia: Dr. W. B. Hopkins, Dr. A. L. Hummel, Dr. R. J. Duglison, J. B. Lippincott Co., Univ. of Pennsylvania Press, F. Blackiston, Son & Co., Wm. R. Warner & Co.
Pittsburgh, Pa.: G. L. Webb.
Revere, Mass.: Dr. S. N. Nelson.
Rochester, N. Y.: E. S. Jackson.
St. Louis: H. H. Bernd & Co., Provident Chemical Works,
Dr. Justin Steer, Dios Chemical Co., Dr. A. Bittner.
St. Paul, Minn.: Dr. S. D. Flagg.
Salem, Mass.: Dr. W. T. Parker.
San Francisco: Bancroft & Co.
Springfield, Mass.: G. and C. Merriam & Co.
Walpole, Ill.: Dr. J. S. Williams.
Washington, D. C.: Wm. Ballantyne & Sons, Dr. J. W. Shrively,
Dr. C. H. A. Kleinschmidt.
Westfield, N. Y.: Dr. T. D. Strong.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 24, 1891, to February 15, 1891.

Major Julius H. Patzki, Surgeon, granted leave of absence for six months, with permission to go beyond sea. By direction of the Secretary of War. Par. 5, S. O. 24, A. G. O., Washington, January 29, 1891.
Capt. William Stephenson, Asst. Surgeon, will proceed without delay from Columbus, Bks., O., to Fort Wayne, Mich., and report in person to the commanding officer of that post for temporary duty, and upon the completion thereof will return to his proper station. By direction of the Secretary of War. Par. 13, S. O. 23, A. G. O., Washington, January 25, 1891.
Major Calvin De Witt, Surgeon, is relieved from duty at Ft. Hancock, Tex., and will report in person to the commanding officer, Ft. Sam Houston, Tex., for duty at that station. By direction of the Secretary of War. Par. 1, S. O. 27, A. G. O., Washington, February 3, 1891.
Capt. Alonzo R. Chapin, Asst. Surgeon (Ft. Yates, N. D.), is granted leave of absence for one month, with permission to apply to the Adjutant General of the Army for an extension of one month. Par. 3, S. O. 17, Dept. of Dakota, St. Paul, Minn., January 31, 1891.
Capt. William B. Davis, Asst. Surgeon U. S. A., leave of absence for seven days granted by O. 2, Ft. Preble, Me., February 4, 1891, is hereby extended twenty-three days, with permission to apply to the Adjutant General of the Army for a further extension of one month. Par. 2, S. O. 22, Hdqrs. Div. Atlantic, Governor's Island, N. Y., February 5, 1891.
Capt. James C. Merrill, Asst. Surgeon, is relieved from duty at Ft. Reno, Oklahoma Terr., and will report in person, at the earliest practicable date, to the Surgeon-General U. S. A., in this city, for duty in his office. By direction of the Secretary of War. Par. 5, S. O. 29, A. G. O., Washington, February 5, 1891.
Major William D. Wolverton, Surgeon U. S. A., granted leave of absence for one month, to take effect on or about February 15, 1891. Par. 2, S. O. 15, Dept. Platte, Omaha, Neb., February 7, 1891.
Asst. Surgeon R. W. Johnson, U. S. A., granted leave of absence for one month, to take effect on or about February 10, inst. Par. 1, S. O. 16, Dept. Ariz., Los Angeles, Cal., February 4, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending February 14, 1891.

P. A. Surgeon E. W. Auzal, detached from U. S. S. "Boston," and to U. S. S. "Lancaster."
P. A. Surgeon T. C. Gray, detached from "U. S. S. "Vesuvius," and to U. S. S. "Boston."
Asst. Surgeon W. C. Braisted, detached from hospital, Hot Springs, and to U. S. S. "Vesuvius."
P. A. Surgeon H. B. Pitts, ordered to the Army and Navy Hospital, Hot Springs.
Asst. Surgeon W. F. Arnold, ordered to the U. S. S. receiving ship "Vermont."
Asst. Surgeon N. J. Blackwood, detached from the U. S. S. "Vermont," and to "Newark."
P. A. Surgeon Richard Ashbridge, ordered to the Navy Yard, New York.
Asst. Surgeon J. H. North, detached from Navy Yard, New York, and to the U. S. S. "Lancaster."

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending February 7, 1891.

Surgeon H. W. Sawtelle, detailed as member of Board, Revenue Marine Service, January 26, 1891.
Surgeon H. W. Austin, detailed as Chairman of Board for physical examination of officers of Revenue Marine Service. January 28 and February 1, 1891.
P. A. Surgeon W. A. Pettus, detailed as Medical Inspector of Immigrants, Port of Boston, Mass., January 29, 1891.
P. A. Surgeon G. M. Magruder, detailed as Recorder of Boards for physical examination of officers of Revenue Marine Service, January 25 and February 6, 1891.
P. A. Surgeon J. J. Kinyoun, detailed for special duty at Berlin, Germany, January 26, 1891.
Asst. Surgeon J. F. Greenvelt, to proceed to Cape Charles Quarantine for temporary duty. February 7, 1891.

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CHICAGO, FEBRUARY 28, 1891.

No 9.

ORIGINAL ARTICLES.

THE KOCH TREATMENT COMBINED WITH SURGICAL PROCEDURES.¹

From the Surgical Department of the Moabit City Hospital, Berlin.

BY PROFESSOR DR. SONNENBURG,
OF BERLIN.

ARTICLE II.—THE SURGICAL PROCEDURES AS APPLIED TO TUBERCULOSIS OF THE GLANDS, BONES AND JOINTS.

Surgeons naturally seem to be of different opinions as to the procedures which are indicated in surgery of tuberculous bones, joints and glands, when they have been subjected to the Koch treatment.

I will attempt in the following, with the help of a few specially selected cases, to outline our principles in the treatment of such patients.

First of all, it is absolutely necessary to have a perfect understanding of the action of the remedy, for numerous complications often arise during the course of the treatment which have the greatest influence upon the temperature curve as well as upon the wound conditions.

The fever curve indicates exactly whether or not the action of the Koch remedy is free from contemporaneous influence. When the temperature rises rapidly after the injection and on the following day the fever subsides, we know that these fluctuations of temperature are attributable to the remedy alone.

Patient Kalow, age 18, received in Moabit Hospital July 12, 1890, had resection for disease of the right hip-joint on the 17th of July. The wound was completely cicatrized by the beginning of November; he first reacted in a typical manner on the 25th of November, after injection of 4 mg. Thenceforth he was treated with increasing doses, and each time showed typical reaction. During the treatment the cicatrix showed intense redness, was very painful but did not break open. With the subsidence of the reactions the local disturbances improved; the patient is now entirely well and goes about; he receives from time to time, as

an additional security against relapse, the larger doses of 1 dg.

But there occur deviations from this typical behavior of the temperature curves, and when, more especially, the morning remissions do not again reach the normal, one can be sure that this action of the temperature is conditioned by inter-current complications. These comprise, first of all, the retentions, which are a result of the greatly increased secretion following the action of the remedy.

This can be best observed in operation wounds that have not completely healed or have left fistulas.

These retentions demand immediate free incision and drainage of the cavities, and if necessary, removal even of bones and joint-end, and this is the more necessary because there is, besides the effect of the retentions themselves, a decomposition of the secreted material.

Patient Hasse, age 10, admitted September 11, 1890; *coxitis dextra*; secondary abscess; incision September 13, 1890. There remains a wound surface on the anterior aspect of the thigh which secretes moderately; joint changes are not demonstrable under chloroform narcosis. Patient was subjected to the Koch treatment November 22. After the second injection already there was an irregular rise of the temperature to a great height, with deterioration of the general condition. December 5, the wound was enlarged under chloroform narcosis—as owing to the increased secretion there had occurred some retention of pus—and a sufficiently free drainage for the secretions was established. The temperature now returned to normal; general condition improved, and the appetite, which had been entirely lost, returned. (For result of bacteriological investigations of the wound secretions—*vide* below.)

After the enlargement and drainage of the wound the temperature showed the typical reaction.

The patient now, the beginning of January, receives at intervals injections of 1 dg. The wound on the anterior aspect of the thigh shows but slight suppurative movements of the hip-joint painless; patient reacts only after large doses.

A quite similar condition appears in the following:

Patient Rueklicke, age 14, admitted in hospital

¹ Authorized translation by Jno. R. McDill, M.D., of Milwaukee, Wis., now in Berlin.

May 8, 1890, for *coxitis dextra*; lungs unaffected. October 24, resection; *caput femoris* completely destroyed; acetabulum perforated. Before the resection wound had quite healed the injections were begun, November 22, but the morning temperature did not fall to normal in the typical manner. The symptoms after the first two doses consisted of slight sense of heat, some redness and sensitiveness to touch about the margins of the wound and a little headache. Without injections the high temperature persisted during the following days; the wound became painful and general condition grew worse. Believing there was again secretion retention in the depths of the wound it was enlarged, and it immediately gave exit to considerable pus. (Bacteriological investigations of this pus showed *staphylococcus pyogenes aureus* in pure culture.) A large drain was introduced and the general condition rapidly improved, pains decreased, appetite returned and temperature gradually subsided and reached normal on the third day after the operation. Injections resumed December 5. The first two doses gave marked reactions and very profuse suppuration from the drained wound; then followed larger doses without marked reactions. On the days when no reaction occurred the temperature remained perfectly normal. The second bacteriological examination showed great quantities of *staphylococcus pyogenes aureus*, besides scattered forms of other bacteria.

This patient is now, at the beginning of January, perfectly cured.

Another case of the temperature being influenced by retentions is the following, which besides shows a number of peculiarities.

The patient Hewart, age 15, was admitted June 9, 1890, on account of *coxitis dextra*.

The patient comes of tuberculous family; says that several years ago he expectorated blood, but never suffered otherwise from anything like lung trouble. The coxitis began when two years of age. Resection of joint in 1883; fistulas formed in the cicatrix during the next few years. Re-resection September 30, 1890, on account of destruction of acetabulum; removal of sequestra; drainage. November 22 injections were begun before the wound was healed. Examination of lungs at that time showed a very slight change only in the left infra-clavicular fossa; no râles; no expectoration.

The rises of temperature occurring after injections of small doses, which seemed to call forth general and local reaction, are again owing to retentions. On December 2 the wound was enlarged and again drained; large quantity of pus escaped. (Bacteriological investigation of pus shows *staphylococcus pyogenes albus*.) After this the general condition improved and the fever subsided, but very soon returned and the cause was found in the lungs. On December 7 the

cough and expectoration recurred; tubercle bacilli were present in the sputa in considerable quantity. Some few bacilli had been found in the fluid or liquid expectoration as early as the 24th of November. Râles were found to be increased in the left infra-clavicular fossa. Injections had been made from the 4th to 8th of December, when they were discontinued that the uninfluenced temperature might be observed. Repeated hæmoptysis since December 12. A short time ago we were again enabled to resume the injections and now the dangerous symptoms begin to disappear.

Every retention of pus or secretion matters must have quite the same influence on the temperature, and cause fear, whether the secreted matter accumulates beneath the crusts of lupus or in the caverns of the lungs. This is shown in the case of the 51-year old patient, Neumann, (lupus faciei et scapulæ).

In this case, after the first injection, unusually copious exudations, partly pus, appeared, the dried superficies of which formed crusts; the accumulation of secretion thereby caused was evidently the reason of slow temperature decline from the 25th to 29th of November, because, after we had removed these crusts, by soaking with compresses saturated with acetate of aluminum solution, typical reactions occurred after the injections; that is to say, there was absence of temperature on the very next day.

Now, it is *not alone the retentions* which cause fever, but also the decompositions (mixed infection) resulting from secondary infection. For in the increased secretion is provided for cocci a favorable soil for growth, and if surgical interference is not soon employed, even septic conditions may arise.

In such circumstances, most likely, is to be sought the explanation for the "pyrogenic feverish after effect" ("fiebrhafte pyrogene Nachwirkung") of the remedy, mentioned by some authors. When, therefore, for instance, consumptives with lung caverns have a fever persist after injections, it is probably often owing to stagnation and decomposition of the secreted materials within the cavities.

In the case of the patient Hasse (*vide* above), after the exits from the wound had been enlarged, the examination of the wound secretion from the upper fistula, leading to the pelvis, resulted in a pure culture of *staphylococcus pyogenes albus*, from the lower fistula leading around the trochanter—a streptococcus. At this time, January 20, the difference in the natures of these two cocci is clinically illustrated by the fact that the upper (*staphylococcus*) fistula has healed, but the lower (*streptococcus*) still persists. In the case of the patient Hewart, likewise a *staphylococcus pyogenes albus*; in the case of the patient Rueklicke, above mentioned—*staphylococcus pyogenes aureus*.

Quite the same conditions will therefore be observed in other (serous) cavities; whenever retentions occur there is infection-opportunity *through communication from without*. In the presence of such complications the effect of Koch's remedy must be prejudiced, until the removal of the disturbing element is accomplished. In this respect the following case is very instructive:

Pauline Schmidt; tuberculosis of the peritoneum. I had already performed laparotomy on October 16, but the operation was followed by no improvement worth mentioning. At the time, 8 litres of a light-colored serous fluid were removed. On neither omentum nor intestines were tuberculous nodules then visible.

For diagnostic purposes, two guinea pigs were inoculated by injecting into the peritoneal cavity of each 1 ccm. of the ascitic fluid. The animals appeared ill during the first few days, but they soon perfectly recovered. Four weeks after they had the appearance of perfectly sound animals, and four weeks later the autopsies showed no tuberculosis.

The effusion rapidly reformed in the patient. It was removed three times by aspiration. Otherwise her condition remained unaltered. The anæmia and emaciation greatly increased; the abdomen was much distended, the temperature normal, pulse small, lungs showed nothing abnormal, no cough.

On November 24 the first injection of 1 mg. of Koch's lymph was administered, but no reaction followed; on 25th, 2 mg.; great sense of tension in the abdomen, with a marked general reaction. Through the last puncture wound escaped a considerable quantity of a light-brown colored and somewhat turbid serous fluid (compression bandage).

Also during the following days, the fever continuing, the exudation increased to such an extent that punctures had to be repeated several times. Careful examination of the peritoneal fluid shows: A quite clear liquid, which upon standing deposits a very thin layer, resembling pus; in it are found quantities of tolerably well preserved leucocytes and occasional endothelia. Some show greatly enlarged nucleoli, in others there is a yellow, lumpy pigment. Tubercle bacilli not found. Two guinea pigs were inoculated with the exudation fluid. The bacteriological investigation proved the existence of *staphylococcus pyogenes aureus* (secondary infection).

On December 5 the patient was again laparotomized. Operation was very tedious and bloody, owing to extensive adhesions between omentum and the old cicatrix. The omentum had to be ligated. Tuberculous nodules were visible on the mesentery and portions of the intestinal serosa. Fibrinous deposits. The right tube feels thickened. The wretched and extremely reduced patient died soon after. Result of post-mortem:

Old tuberculosis of the peritoneum, which had recently led to a dense crop of nodules, mainly in the inferior portions. Evidences of recent suppurating peritonitis. In addition there was typical cirrhosis of liver—not tuberculous in origin. Lungs intact. Thickening of right tube was caused by overlying fibrin; mucous membrane and tissue normal.

Bacteriological examination of the fluid, etc., removed at the last operation, results, in one of the three tubes of agar inoculated with the liquid, in four colonies of *staphylococcus pyogenes aureus*. In contrast to this fluid, which is almost free of bacteria, are the two plates of agar, which were inoculated with the fibrin coagula, showing *staphylococcus pyogenes aureus* in great quantities and in pure culture.

After reviewing what has been so far discussed, it is our opinion, that in a number of surgical tuberculosis which have open wounds or fistulæ, Koch's remedy, by means of tissue necrosis and increased secretions, together with outward communication of the wound cavities, frequently calls forth changes in the diseased parts which, if surgical interference is not employed, may lead to manifold complications. The action of the remedy can be, thereby, at times completely nullified. Only by the aid of surgical procedure can the typical action and curative effect of the remedy prevail.

Recognizing these circumstances, we have succeeded, up to this time, in effecting perfect cures in some of our surgical cases—*e. g.*, such was the case in the 4-year old patient, Emil Drateva. He suffered from osteitis tuberculosa multiplex. He was under our care since last April, and repeated curettings and incisions had been performed. The injections were begun on November 24.

The reactions in the beginning showed only slight deviations, owing to new abscess formation. On November 26 occurred great swelling and marked sensibility to touch, of the right ankle-joint, which up to that time had been considered as healthy because it had shown no untoward symptoms. In this case we were able to increase the dose rapidly. The reaction ceased completely at 15 mg., and now 5 cg. gives no reaction. The cicatrices on the hands and feet, as well as the right ankle-joint, are entirely painless. The patient goes about and feels very well.

In other patients who had wounds or fistulæ, and in whom large doses caused no reaction, the wounds, fistulæ or glands remained notwithstanding. I should like to remark here, that on tuberculous glands, especially, the effect of the remedy is comparatively slow. The explanation is, probably, that the remedy gains access so gradually

- The guinea pigs, intraperitoneally inoculated on December 3, appeared to be very ill during the first few days after the injections, but completely recovered (corresponding with the fact that the bacteriological examination of the exudated fluid showed that the fibrin coagula, not the fluid, contained the cocci).

and slowly on account of the encapsulation and the cheesy nature of these deposits. As a matter of course the surgeon has again to interfere in all cases where the self-help of the organism is insufficient to remove the necrotized tissue.

Hence, in all cases in which reaction after large doses repeatedly fails, fistulae, unhealed wounds and joints must be most carefully and completely excised; we have thereby gained very satisfactory results. These patients, however, for assurance's sake, receive large doses of the Koch remedy (1 dg. for each adult, at intervals of from eight to fourteen days). This after-treatment will be continued weeks or months according to the case.

I can, therefore, from recent experience, maintain the principle that, in surgical tuberculosis, the practitioner will have more occasion now than ever before to resort to the knife, and then only will he achieve brilliant results from the Koch treatment. Here least of all is it permissible to limit one's self to the Koch injection according to any prescribed method, for the highest demands of the surgical art must always be kept in view.

A HISTORICAL RECORD OF THE DEVICES USED IN THE MECHANICAL TREATMENT OF SIMPLE FRACTURE OF THE PATELLA.

Read before the Clinical Society of the Chicago Polyclinic, October 14, 1890.

BY CHARLES F. STILLMAN, M.Sc., M.D.,

PROFESSOR OF ORTHOPEDIC SURGERY IN THE CHICAGO POLYCLINIC.

In the entire domain of surgery there is not a fracture which has interested more prominent surgical minds, or been the subject of more devices and inventions for its treatment, than this; and in order to present an accurate and comprehensive history, the writer has been obliged to extract freely from foreign authorities, as well as those who have written upon the subject in our own language.

Abulcasis¹ and Paul of Aegina were the first to mention fracture of the patella in their writings. Their treatment was most simple. The former bound down the upper fragment with a bandage; the latter fastened the fragments together with an emplastrum, which with a round splint was held in place by a bandage. Both writers considered the extended position of the limb a necessity. It is unfortunate that no illustrations can be obtained depicting their methods.

Guido, Theodorich,² Giul. de Saliceto and Brunschwig recommended plasters, splints and bandages, and even Paré considered the subject briefly and with no positive directions for treatment. He suggested that compresses be laid in the popliteal space, and splints of straw used to prevent flexion. Paré asserted that he had never effected a cure without deformity, a limp always remaining in

the patient's walk. This assertion seems to have acted as a spur to surgical invention, and was followed by many devices to overcome the difficulties to which he referred. Peccetti (1557) attempted to fasten the fragments together with a leather ring which was held in place by a bandage. More complete was the invention of Muschenbroek, a mechanic of Leyden.

This is described by Solingen³ and mentioned by Garengot,⁴ who drew attention to the favorable comment it had occasioned in France, although it had been claimed by Arnand, though he neither invented it nor brought it personally from Germany. Muschenbroek's apparatus consisted of two steel plates padded, and these were screwed on to a frame of the same material, and by means of straps the fragments were kept in approximation (See Fig. 1).

The next important form of apparatus was devised by Purrmann,⁵ and consisted (See Fig. 2) of an iron ring, covered with leather and secured in place by straps.

The first complete monograph upon the subject of fracture of the patella was written by Dr. H. Meibom⁶ (1697), and in this dissertation he described the method and splint invented and advocated by his father.

This consisted of a padded cap that encircled the fragments, and could in its upper part be opened and closed at will. The eighteenth century was very rich in contrivances to effect union.

Petit used a form of gutter padded with Hungarian leather (Fig. 3), which was provided with side slots in which the bandages were fastened. He used two bandages, in the middle of each of which were sewed semicircular padded compresses which crossed above and below the fragments, and Verduc⁷ (1711), Henckel (Fig. 4), Bass⁸ (Fig. 5), Eschenbach⁹ and others, used compresses and many-tailed bandages in various forms. Kalschmidt¹⁰ used a linen crown covered with a wooden capsule with a square opening at the top (Fig. 6).

Valentin¹¹ (1772) was the first to draw attention to the value of placing the limb in a satisfactory position by relaxing the extensors, and elevating the foot so as to approximate the fragments.

Theden¹² soon after drew attention to the inefficiency of the ring and other forms of compressing apparatus, and strongly advocated the position treatment of Valentin. Theden was the first to place the limb in a box, the lower end of which was elevated to maintain the extension, and the fragments were held together by circular loops and bandages.

Bell¹³ (Fig. 7) used two heart-shaped compresses finished in leather, connected together by two girths, one of which passed around the limb above the knee and the other below. These compresses were drawn together by other straps, the fragments of the patella being between them, and

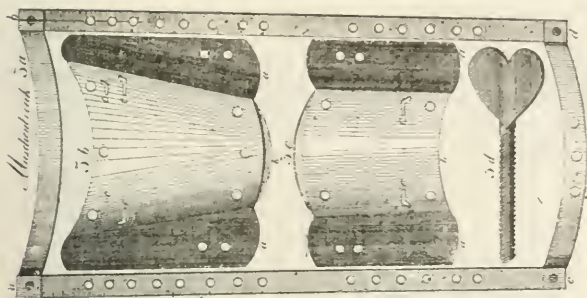


Fig. 1.—Muschenbroek's (1648) apparatus.



Fig. 2.—Purmann (1685).



Fig. 3.—Petit.

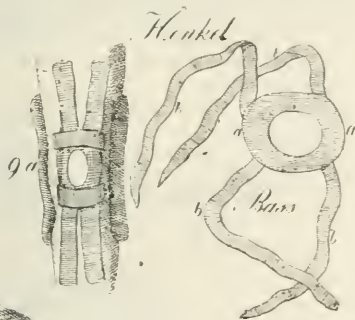


Fig. 4.—Henkel.

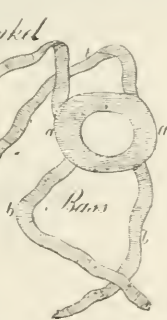


Fig. 5.—Bass (1732).

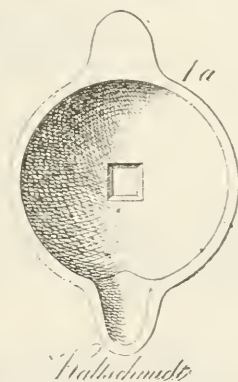


Fig. 6.—Kaltschmidt (1784).



Fig. 7.—Benjamin Bell (1799).

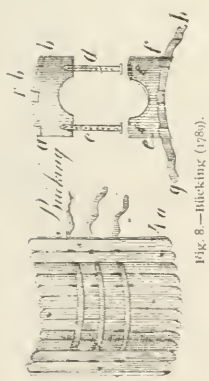


Fig. 8.—Hickling (1780).

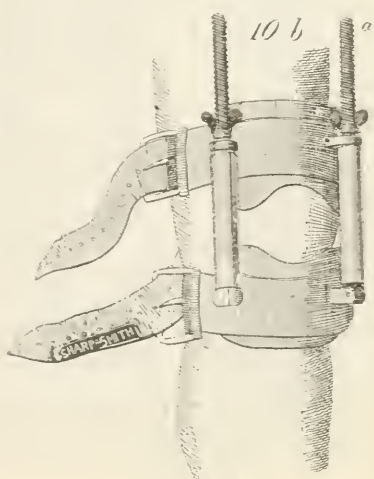


Fig. 9.—Lampe (1796).

the upper compress was connected with the end of the shoe by a long anterior strap which was intended to prevent flexion and displacement of the upper fragment. The leg was directed to be retained in position in this apparatus fourteen days.

Zenker changed the form of these heart-shaped compresses into that of the horse-shoe, and Bucking¹⁴ (Fig. 8) and Evers followed with slight modifications.

The next important improvement after Valentin's in the treatment of this fracture was that of Souville.¹⁵ He bound the thigh with bandages from the hip downward, and from the foot upward to the knee, to control the action of the extensors and overcome the swelling of the knee-joint. He reports one case treated by this method in which the patient began to walk in twenty-nine days. Richter¹⁶ also used this bandage, and asserted that he never felt the need of any other instrument or dressing. Böttcher¹⁷ placed a compress and spoon-shaped splint posteriorly, and fastened it so that the fragments were held by the girth straps above and below the knee, connected by linear straps which kept them in position. Lampe¹⁸ (Fig. 9) modified the apparatus of Bucking (Fig. 8), which was substantially that of Bell (except that the heart-shaped plates were united by hinge rods instead of straps), by substituting screws for the hinge rods, and these screws were provided with pivots where they were attached to the plates, so that the latter could better adapt themselves to the curves of the limb.

The beginning of the nineteenth century was also rich in inventions. Desault and Richerand¹⁹ were the first to advance plans of treatment, but the essential principles of their methods were incorporated in the apparatus of Boyer²⁰ (Fig. 10).

This consisted of a thin metal gutter thoroughly padded, and sufficiently long to receive the entire lower extremity. To this were fastened by buttons two well padded straps of leather passing above and below the patella.

Boyer's gutter greatly resembled Buirer's (Fig. 11), and the suspicion could be entertained that the latter had served as a model for Boyer's, since it was in use prior to 1801.

Buirer's²¹ apparatus consisted of a long gutter or splint, carved to fit the posterior surface of the limb, and in which, as in Boyer's, were two straps fastened by means of buckles, holding between them the fragments of the patella.

Assalini²² contrived a dressing (Fig. 12) in which, in addition to the rest of the apparatus, the thigh was placed in a cylindrical splint, and four crossed straps were used instead of two to retain the fragments in position.

Sauter recommended his suspension frame for this fracture, and fastened the outstretched limb on the same, but neglected to give his suspension the form of an inclined plane.

Sir Astley Cooper used a hollowed splint, allowed the patient to sit upright, the heel being elevated, and waited until all inflammation had subsided. He then bandaged the limb from the foot to the knee, pressed the upper fragment downward, laid on each side of the knee a broad band and fastened the same with circular loops above and below the patella. The ends of the strips, which had been laid along the knee, were then turned over and tied together, thus tending to approximate the circular loops, and with them the fragments (Fig. 13).

Another device for which he claims still more excellence, is the employment of a leather band around the thigh above the upper fragment. This is connected to the sole of the foot by straps passing down each side of the leg, which is maintained in an elevated and outstretched position (see Fig. 14). This was contrived with the evident object of overcoming the contractility of the muscles of the thigh.

To prevent these long side straps from slipping, circular bands about the leg are to be used as shown in Fig. 14.

He recommended the retention of this position for five or six weeks, and after this passive motion.

Sir Chr. Bell²³ used a simple bandage. He bound down the upper fragment first by passing the bandage under the knee in the popliteal space. The lower fragment was treated in the same manner, and he paid especial attention to the directions of his predecessors as to position.

Langenbeck, and also Richter,²⁴ bound up the leg and thigh, the fragments being held together only by a few circular turns of the ends of the bandage. They did not use an inclined plane, but instead had the patient sit in an upright position. Dupuytren²⁵ used a very simple bandage to maintain the fragments in position, and placed the limb on an inclined plane.

Von Graefe²⁶ (1824) was the first to devise a splint for this fracture, provided with joints at the side. (Fig. 15). It consisted of two semi-circular troughs made of sheet iron and properly padded, united by two lateral hinge joints. The splint is fastened to the limb by means of four girths, two of which are placed on the upper half and two on the lower half of the splint. Union of the fragments is sought to be accomplished by means of two linear straps connecting the middle transverse ones.

Amesbury's²⁷ apparatus consisted of two leather cushions, the larger being placed over the upper fragment of the patella, and the smaller one the lower, so that after being buckled together they hold the fragments between them. From the upper cushion a strap passes down along the leg to the sole of the foot, under the same and back again up the other side of the leg to the opposite side of the same cushion, to which it is then

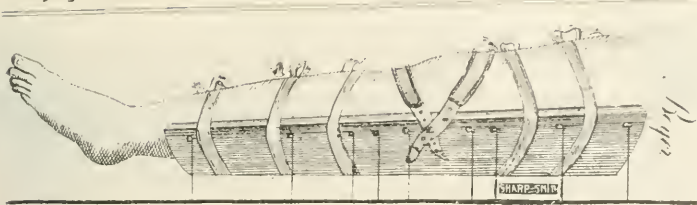


Fig. 10. - Boyer's apparatus.

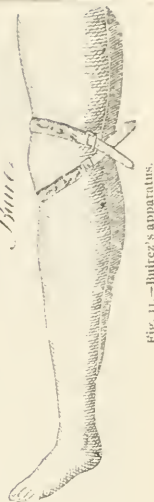


Fig. 11. - Butrez's apparatus.

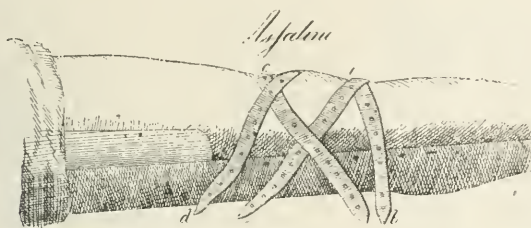


Fig. 12. - Assalini's apparatus.



Fig. 13. - Sir Astley Cooper.



Fig. 14. - Sir Astley Cooper.

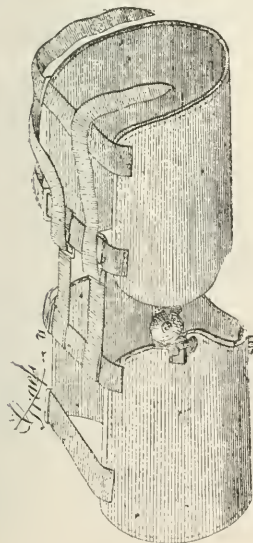


Fig. 15. - Von Graefe (1824).

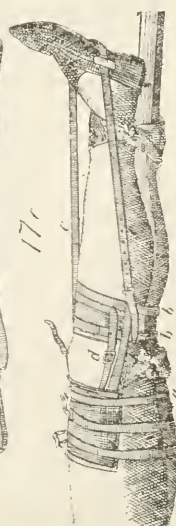
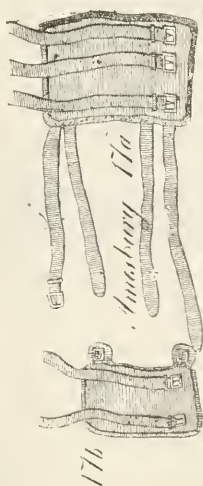


Fig. 17. - Anebury's apparatus applied.

Figs. 16. - Anebury (1825).

buckled. (Fig. 16). Before the application of the cushions, the limb is laid upon a long carved wooden splint, extending from the os ischii beyond the heel, to which it is fastened partly by the straps attached to the cushions and partly by other bandages and straps. (Fig. 17).

A similar dressing was next invented by J. L. Rosseau, of Philadelphia, (1826). (Fig. 18).

After the outstretched limb had been placed at an obtuse angle with the body, and the fragments had been approximated, a small stuffed pillow was placed against the upper fragment and fastened there by straps and girths. At a distance of two inches above and below the patella were placed two girths, the upper one of which was connected to the foot by a side strap as in Sir Astley Cooper's and Amesbury's contrivances, already described. A splint eighteen inches long was next placed under the limb, its centre being under the popliteal space, and on each side of this splint there were narrow slots for the side straps to pass through. This splint was secured to the limb by roller bandage and the patella was covered with a compress which was held in place by another girth encircling the limb and the splint.

F. W. Fest⁹ (1827) arranged an inclined plane for which were claimed special advantages. (Fig. 19). It consisted of a wooden adjustable inclined surface, furnished with folding sides, and at its lower end with a sliding board to increase or decrease its length.

Two longitudinal slots were cut in the board opposite and under the knee for the passage of the transverse crossed straps which were intended to keep the fragments in apposition.

To and under the end of each strap furnished with buckling holes, are fastened padded girths, one of which is laid against the upper, the other against the lower end of the patella in a horizontal direction, which serve to hold the fragments in position when the straps are buckled. To more firmly secure both girths in the desired position, two small straps are fastened at right angles to the upper edge of the lower girth and secured to the upper girth, and thus, in a measure, prevent deviation of the fragments to one side. To prevent the apparatus from falling over, two large and two small wings are secured to the side of the lower end, and in the middle of the foot-rest, these being joined by hinges to allow their folding together. Richter (1828) observes that what Valentine and Theden had sought to attain through comfortable position had previously been attempted by surgeons with machines, without satisfactory results, they not being able to prevent the contraction of the extensors. From an historic study of the subject he notes how one sees even in his time a return to simpler methods of treatment, and he states that when the importance of this treatment is fully realized, and the fact that all new forms of contrivances

are constructed mainly on the same principles, the means to bring about a perfect union are recognized to be nearly analogous to those of the more ancient days. The indications which must be fulfilled, observes Richter, in the treatment of fracture of the patella, are 1, the prevention of the contraction of the extensors, 2, the maintaining in contact of the fractured surfaces, and 3, the prevention of the swelling of the limb. In accordance with the first indication, he advises that the patient sit upright, the outstretched limb to be placed on an inclined plane, and the thigh bandaged from the hip-joint downward. To prevent the foot from falling from one side to the other he suggests that the limb be placed in a steel semi-circular padded canal or placed between straw splints and compresses used. The second indication he considers can be accomplished by winding bow-formed circular turns of bandage above and below the patella, these being connected together in the popliteal space; or again by the use of the "Testudo Inversa," of which Kluge made especial mention. To obtain this a sufficiently long pasteboard splint is laid posteriorly and it is padded with linen, particularly on the edges, to prevent pressure, and leaves a hollow in the middle so that the circulation in the vessels of the popliteal region cannot be disturbed. This splint is fastened by a few circular turns above and below the knee.

Alcock¹⁰ was the first to advocate the use of the adhesive plaster of modern times in this fracture, although Paul of Ægina, centuries ago recommended holding the fragments together with an emplastrum, and was evidently actuated by the same desire to employ adhesive material in their retention.

A hæmorrhagic condition of the joint need not prevent the application of this dressing, but Alcock directs that the knee must remain free if the swelling is inflammatory. The treatment lasts several weeks, and its duration is governed by the individuality of the patient. He considers that four weeks might suffice with a young person, but with older patients and under unfavorable circumstances, a longer time must be deemed advisable.

The given time having elapsed, he states that passive movements can be allowed, the patient still remaining in bed, and not until the patient has acquired skill in moving the knee must crutches be used to practice walking. He must exercise gradually until he depends on a stick, and only in the end do away with that. Richter draws attention to a useful contrivance to prevent the tearing of the newly formed ligamentous tissue, invented by Baillif.¹¹ (Fig. 16). It consists of four portions of steel with leather, and padded on the inside, of which two are buckled to the thigh and two to the leg. By a point which only allows twenty-four degrees of flexion,



Fig. 18.—Rousseau (1826).

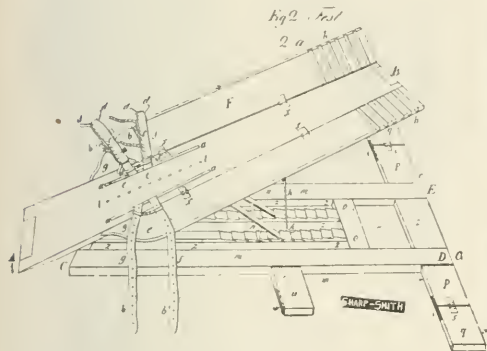


Fig. 19.—F. W. Fest (1827).

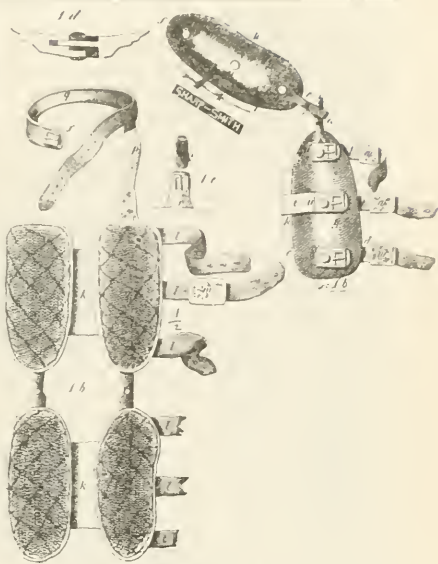


Fig. 20.—Baillif (1827).



Fig. 21.—Baillif (applied).

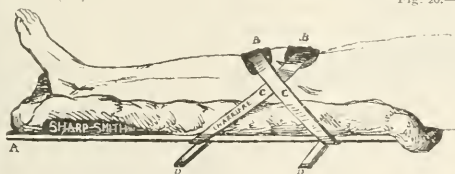


Fig. 22.—Langier's apparatus.

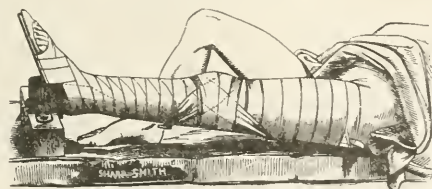


Fig. 23.—Wood's apparatus.

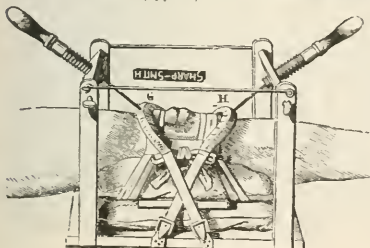


Fig. 25.—Fontan's apparatus.

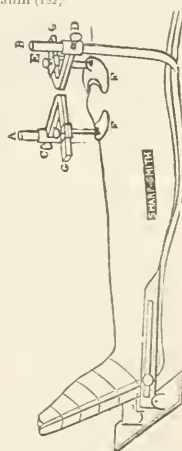


Fig. 24.—Lonsdale's apparatus.

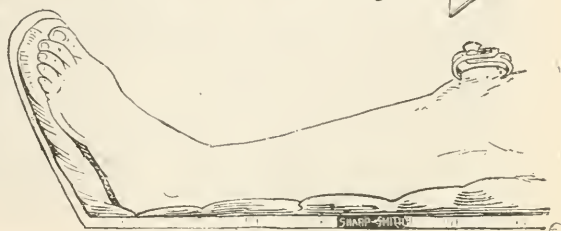


Fig. 26.—Malgaigne's hooks, applied.

excessive motion of the leg is prevented, this often being a causation of ligamentous rupture. To prevent these splints from slipping downward, the outer segment is joined by means of a strap to a girth which surrounds the pelvis.

At present the greater number of forms of apparatus for pressure upon the fragments of the patella are derived from Muschenbroek's, (Fig. 1), already described, or from the apparatus of Boyer (Fig. 10), which consisted of a straight gutter with double straps, and represents the most simple model and the best known and the most often reproduced. The great number of forms belonging to these two classes were fifty years ago almost entirely abandoned because of insufficient action and inconvenience, as was well shown by Malgaigne in his dissertation upon the subject, but during the past half century great activity in invention has been displayed. In Langier's²² apparatus, Boyer's gutter was replaced by a horizontal plank covered with a thick cushion and large enough to enable the supporting strap to be maintained at a distance from the lateral parts of the limb. This plank is furnished opposite the popliteal space with two pieces of wood, serving to regulate the straps. Instead of the padded straps before that time in use to brace the fragments of the patella together, Langier applied to each fragment a small piece of gutta percha carefully cast. Each one of these is solidified on the fragments and a circular band of caoutchouc is utilized also. This is a simple apparatus, leaves the parts uncovered, is easily applied and looked after, is not liable to accident, and is possessed of sufficient qualities to give good results. Wood's²³ apparatus is quite similar, and consists of metallic blades placed behind the limb, furnished with two hooks turned in the inverse direction which serve as points of attachment to bands of India rubber, crossing themselves on each fragment.

Lonsdale's²⁴ apparatus is composed of two covered metallic plates, semi circular in form and slightly concave beneath, thereby adapting themselves nearly to the form of the patella. These two plates are attached to iron supports which slide laterally on transverse bars arranged in such a manner as to move from top to bottom on two vertical rods, placed on each side of the knee and riveted to the posterior blade. The supports and horizontal rods are furnished with screws which allow the parts to be adjusted in any desired position, horizontal and vertical adjustment being both permitted by the arrangement.

Fontan's²⁵ apparatus is of two forms—one is composed of a board of more length than width from the angles of which rise rods, retained at their position by iron triangles. These support two rods, each one receiving a strong wooden screw. These are hollowed two or three thumbs length, and this canal receives the free extremity

of a strong iron wire surmounting the two half circles. The last named are important pieces of the apparatus, and press on the superior and inferior parts of the patella. These operate reversely, and their pressure is augmented or diminished as desired by tightening or loosening the wooden screws. To prevent their sliding on the fragments, a slight curvation is imparted to the stem of the wire which supports them, and to still further insure a good result, to the extremity of each piece is added a strap which is received in buckles placed on the sides of the board that constitutes the foundation of the apparatus. The half circles are movable. The foundation is covered with a linen cushion thick enough to raise the knee and lessen the strain upon the popliteal region. The limb is introduced between the poles, the fracture resting in the centre of the apparatus. After the rods and triangles are properly adjusted, the iron wire stem of the half circle is inserted in the central canal of the screw, and after securing the half circles by aid of straps, the union of the fragments is effected by tightening the screws. The second apparatus invented by Fontan is better known and more simple; its action, however, is less efficacious. It is a modification of Boyer's apparatus. In this second contrivance two circular bandages are placed above and below the patella. These are introduced in the half circles with which the foundation is furnished, and approximate the transverse bandages to the limb by means of lateral girths. In spite of all the care given in applying these forms of apparatus, they produced only fibrous union, and Bonnet recommended that whatever apparatus was used the heel should not be elevated above twenty to twenty-six inches, thus to avoid producing a harmful tension in the muscles of the posterior region of the limb.

Malgaigne's²⁶ hook apparatus was invented to effect the union of the fragments to the necessary degree, to result in the formation of osseous union. Its employment was advocated when the separation exceeded two inches, because then a fibrous union was almost inevitable if the ordinary bandage was used. This instrument has its support on the bone itself without the assistance of bandages or splints. It consists of three inch large steel plates so arranged as to slide one upon the other, and separated or brought together by means of a horizontal screw parallel with the plates. This screw engages itself in a hollow in the centre of the two riveted bolts on each of the plates and is turned by means of a key. The free extremity of each plate is bifurcated, ending in two very pointed curved hooks resembling those of a double forceps. The two hooks of the inferior plate are separated by one inch only, and are implanted on the summit of the patella in such a way as to lodge their points in the bone. Those of the superior plate are separated twice

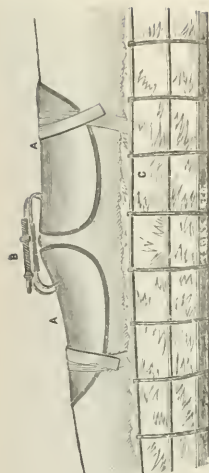


Fig. 27.—U. Trélat's apparatus.

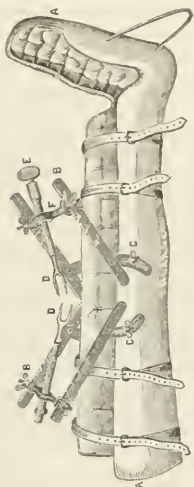


Fig. 28.—Valette's apparatus.



Fig. 29.—Sanborn's adhesive strap loop.

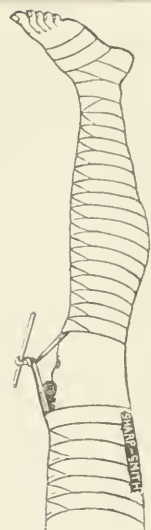


Fig. 30.—Sanborn's apparatus, applied.

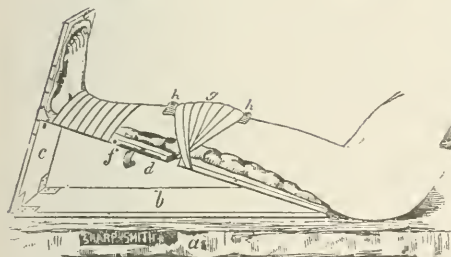


Fig. 31.—Hamilton's apparatus.



Fig. 32

as much. The inside hook is longer, to accommodate itself to the obliquity of that part of the bone. To avoid the evil effects which were sometimes shown to be produced by Malgaigne's hooks, Rigaud, of Strasburg, proposed to replace the hooks with two metallic stems, which are to be introduced not only in the fibrous tissue, but in the patella itself. He used two screws which he implanted in the fragments and afterwards brought together by the aid of girths and a metallic arch.

Bonnet²⁷ (1851), of Lyons, adopted the use of the screws implanted in the patella with the precaution not to let them penetrate further than 4 to 5 millimeters. Two screws surmounted each fragment with a quadrangular frame of 3 millimeters in height, and were implanted in the intermediary parts of the fragments to within one millimeter of the fractured borders. Meanwhile, as an assistant approximates the fragments as much as possible, the surgeon fixes them in a

state of coaptation by encircling them with bandages. He next presses them together with two little steel branches united by two screws. The application of this procedure, more theoretical than practical, was not effected without difficulty, and inconvenience.

A. Cooper's²⁸ procedure (of San Francisco), went very much further, and he proposed to unite the fragments by metallic sutures. A longitudinal incision sufficiently long to uncover the fragments having been made over the patella, these were pierced obliquely with a drill and the surgeon passed through these perforations silver sutures whose extremities were to be twisted until the fractured surfaces were brought into immediate contact.

In all the recent interesting papers upon the feasibility of wiring the patella, the writer has failed to find credit given to this American surgeon who was evidently its originator.

Trélat's²⁹ (1862) apparatus consists of a very in-

genious combination of gutta-percha and the hooks. He uses the efficacious action of the last in bringing the fragments together, and evades by the interposition of the gutta-percha the wounding and inconvenience resulting from the implantation of the hooks. Before using this apparatus it is necessary to wait until the inflammatory swelling has disappeared, and the surgeon then applies it in the following manner: Two plates of gutta-percha are cut and softened by plunging them into hot water, and while the member is maintained in the forced extension at an angle of forty-five degrees, the surgeon places them on each fragment in such a manner that their greatest extremities face each other. With wet fingers the surgeon models the gutta-percha to the contours of the patella and the neighboring points. It is necessary that this modeling should be done with a great deal of care, as the efficaciousness of the entire apparatus depends on its exactitude. Bandages dipped in cold water are then applied on the gutta-percha, and as soon as the plates are hardened enough to be taken off without alteration, the surgeon plunges them into a vessel filled with cold water, where in a few moments they recover their normal consistency. The surgeon then adapts them anew to the parts, which they fit without the interposition of any foreign body. He then fixes them to the surface at their pointed extremities with the aid of a small starched bandage wound once or twice around the limb. Without this precaution the moment the hook was applied each plate would tilt and the hooks would immediately cease to operate. The surgeon then brings by aid of the fingers each plate toward the other and implants strongly in each the corresponding half of the hook. And he need have no fear of piercing the gutta-percha and arriving as deep as the skin, for the gummy substance can only be penetrated with difficulty and the point rarely attain half its thickness. There remains nothing more but to screw together the plates and fragments to the degree desired. The surgeon next places the limb in a gutter of which the inferior extremity is elevated to thirty-five or forty degrees. At the end of several days the soft parts yield, and he must then take the plates off the limb and re-adjust the entire apparatus. After a month this splint has afforded all the results that can be expected and the hooks are to be taken off. But Trélat advises leaving the limb during several days afterwards in the extension position. He claims that this apparatus causes no suffering, procures a uniform pressure over a large surface, is not liable to accident, and allows the examination of the state of the fracture through the spaces between the plates.

Valette's apparatus (of Lyons), is composed of an iron gutter well padded, supplied with four straps and disposed in such a manner as to re-

ceive the entire limb. The one here presented is furnished with a sole to support the foot, but a gutter which would embrace but a part of the leg and thigh could be employed. Opposite the articulation two blades of iron arise connected by an arch which is perforated in its centre for the passage of forks. This arch can be raised or lowered by being placed in the slots in the up-rights—the forks being regulated by a key. This apparatus is claimed to advantageously remedy the defects which Malgaigne's hooks present.

Prof. Gross,⁴⁰ of Philadelphia, recommended the employment of a padded tin case extending from the middle of the thigh to a corresponding point in the calf of the leg. A roller is to be applied upon the leg from the toes upward, and another upon the thigh from the groin downwards, the displaced fragments to be brought down and confined by numerous adhesive straps carried around the bone above and below the joint, and connected afterwards by vertical and transverse pieces. A long, thick and very narrow compress should extend around the upper border of the patella and confined by the two rollers, passed around the joint in the form of the figure 8.

Dr. Sanborn,⁴¹ of Lowell, Mass., suggested a method by the use of a single adhesive strip twisted above the knee. He directs that a strip of ordinary adhesive plaster four feet long, and two and a half inches wide, be applied to the limb from the upper portion of the thigh to the middle of the leg, leaving at the knee a free loop. (Fig. 29.) A roller bandage is then applied above and below the knee for the purpose of securing the plaster and controlling the circulation and muscular contraction. A small stick six or eight inches in length then being put through the loop over the knee, the plaster is to be twisted until the patella is brought near down to its proper situation. Before applying the twist, a hard compress is to be placed above the patella in such a manner as to bring the force to bear directly upon the bone.

Prof. Frank A. Hamilton contrived a dressing consisting of an inclined plane of sufficient length to support the thigh and leg, and about six inches wider than the limb at the knee. (Fig. 31.) This plane rises from a horizontal floor of the same length.

Wales⁴² draws particular attention to the merits of the forms of apparatus devised by two American surgeons, Lausdale and Hartshorne. Of the former (Fig. 32) he terms a very ingenious and efficient splint—holding the fragments in exact apposition and not constricting the limb. "It is constructed with a posterior padded splint upon which the limb is secured with a roller bandage."

"From a point a short distance above the knee an iron loop, or arc, spans the limb obliquely, and when in position its top is below the patella; a simi-

lar arc is fastened to the splint at a corresponding point below the knee, and its top, when in position, is above the knee. Each of these arcs bear a screw at its centre armed with a semi-lunar pad. In the application of this apparatus after the limb is secured to the splint, it is simply necessary to bring the upper fragment down, and with the upper screw clamp the pad against it; in like manner clamp the inferior fragment with the lower pad.

Dr. Edward Hartshorne first employed his method in the Pennsylvania Hospital in 1862, and it consists of a simple application of the Spanish windlass.

The splint, which should be carefully padded—and sufficiently broad—is furnished on its sides, at proper distances above and below the knee, with notches or projecting cleats, pins or hooks which are required to hold the bandage. This bandage may be the common roller or adhesive strips, or even a band or ring of elastic webbing; but inelastic webbing, or linen, or cotton drilling from one and a half to two inches wide in the central portion and narrower at its ends, answers better, especially if the surfaces which we apply to the integument above and below the fragments are thinly spread with old adhesive plaster. The lower fragment is fixed in the usual way, and retained in position by simply applying one of the bandages by its wider central portion in front of the knee-joint directly to the lower margin of this fragment, then passing the two narrower ends obliquely upwards and backwards and drawing them firmly together over the upper cleats, pins or notches, and behind the splints, there to be fastened in any manner most convenient.

The bandage or band for the upper fragment requires more careful application and adjustment, as it is to exert all the pressure and traction force necessary to bring the fragment down, and retain it in apposition with the fixed lower fragment. Having been applied to the integument just above and slightly over the margin of this upper fragment, it is then drawn firmly downwards and forwards over the notches or cleats in such an oblique direction as may be found the best for efficient traction in each particular case. The two ends are firmly fastened together, and a small stick (or, what is better, the little wooden fork called a clothes-pin), passed between the band and the splint, is turned or twisted on its long axis in such a way as to draw upon the bandage to any proper extent. This arrangement allows the whole knee, especially the injured parts and the compressing bandages, to remain uncovered, at the same time that it gives entire control of the joint and of the separated fragments, as well as of the dressing itself. Compresses of lint or other material may be employed, but they are not often needed, particularly when adhesive plaster is spread upon the central portion of the bandage. Tilting of the fragments may be prevented by a transverse bandage, or by a narrow, well-padded transverse splint pressing upon the line of fracture. The ease and certainty with which the traction may be lessened or increased by the slightest turn of the twisting-stick or pin, at the same time that this pin may be fastened beyond the reach or control of the patient, renders this contrivance remarkably effective; while the simplicity of materials and arrangement bring it readily within the reach of every one. The same care in all essentials, and especially in adapting the splint and bandage, as to length and width of the former, and the distance apart of the cleats or notches, and the width and obliquity of the latter, must be observed in the use of this mode of dressing, as in other more complex or different arrangements.

From Erichsen¹⁰ whose remarks upon the treat-

ment of this fracture twenty years ago, may be taken as an index of the professional opinion existing at that time, is extracted the following:

There is rather severe inflammatory action in the knee with great synovial effusion. This requires to be reduced by rest, and the application of evaporating lotions, before any other treatment can be adopted. When this has been effected, means must be taken for the reunion of the fragments. With this view the principal point to be attended to is to keep them in sufficiently close apposition for firm ligamentous union to take place. With this view the upper fragment, which is movable, and has been retracted by the extension muscles of the thigh, must be drawn down so as to be approximated to the lower one which is fixed by the ligamentous patella. This approximation of the fragments may be effected either by position and relaxation of the muscles or by mechanical contrivance. Simple position usually suffices for this purpose and must be attended to whatever mechanical appliances are used. By placing the patient in a semi-recumbent position, and elevating the leg considerably so as to relax the muscles of the thigh completely, the upper fragment may be brought down to the lower one, and if necessary may be retained there after any local inflammation that results from the accident has been subdued—by moulding a gutta percha cap accurately to and fixing it firmly upon the knee, or by the application of pads of lint and broad straps of plaster. These straps of plaster may be applied above and upon the upper fragment in a diagonal direction from above downwards. They should be of sufficient length to embrace the limb and the back splint, to which they are to be fixed, or a figure of 8 may be applied around the limb and splint together. This position must be maintained for at least six weeks: At the expiration of this time the patient may be allowed to walk about, wearing, however, an elastic knee cap, or what is better, a straight leather splint in the ham, so as to prevent the knee from being bent for at least three months.

In conclusion: this paper has been prepared solely with the idea of presenting to the profession a concise résumé of the more important forms of apparatus which have been invented for this fracture prior to the last twenty years, and as its details are familiar to every practitioner, no mention is made of the present practice of encasing the limb in plaster-of-Paris, although this must also be considered a mechanical procedure.

The writer in this paper, which is intended to be entirely historical, does not enter into the controversy at present existing between advocates of operative and mechanical treatment, although

¹ Richter, Berlin, 1828. (Also Abulcasis, De Chirurgia, traduction latine par Channing, Oxonii 1788.)

² Ars. Chirurg. Venetiis 1546, cap. xxxix, fol. 154.

³ Manuale operat. der Chir., Amsterdam, 1648, part iv. chap. 27, p. 325, plate 15, Fig. 26.

⁴ Nouveau traité des instrumens de Chirurgie le plus utiles. T. 11, p. 301, Paris, 1723.

⁵ Chir. Loebbeck-Kranz, Halberst., 1688, Chap. 21, p. 111.

⁶ De patella cique laestonibus et curatione, Francg, 1667, and also in Haller's Disput. Anatom., Vol. vi, p. 209, Göttingen, 1751.

⁷ La manière de guérir par le moyen des bandages les fractures et les luxations. Paris, 1712, p. 168.

⁸ Grundleicher Bericht von Bandagen, Leipzig, 1732, p. 232.

⁹ Chirurgie Rostock u. Leipzig, 1784, p. 461.

¹⁰ C. L. Schmalz, Seltene Chir. u. Med. Vorfälle, Leipzig 1774, p. 199.

¹¹ Recherches critiques sur la Chirurgie moderne, 1772.

¹² Neue Bemerk. und Erfahrungen, Book 11, p. 219. (Also Theden, Progrès ultérieurs de la chirurgie trad. par Chayron, Paris 1777.)

¹³ Lehrbegriff, Book iv, p. 422. Leipzig, 1789.

¹⁴ Abhandlung vom Kniegelenkbruch, Nebst Beschreibung einer neuen Maschine dazu, Steudal, 1789, p. 29.

¹⁵ Journal de Médecine, Chir. et Pharm., Paris, 1789.

¹⁶ Richter, Chir. Biblioth. Book xl, p. 513. Göttingen, 1772-1796.

this subject is now attracting widespread attention in the profession. It is, however, safe to assume, that so long as a surgical operation to secure union of the fragments is not unattended with danger, excepting under antiseptic precautions, the details of which render its employment impossible for ninety-five practitioners out of a hundred, especially those residing in the country, the *mechanical treatment* being devoid of danger, and productive of a fairly good result with but little comparative inconvenience, will interest and continue to be employed by far the greater majority of the profession.

125 State St., Chicago.

METHYL-VIOLET.

Read at the Missouri Valley Medical Association at Kansas City, Mo.,
December 20, 1890.

BY FLAVEL B. TIFFANY, M.D.,
OF KANSAS CITY, MO.

A few months ago Dr. J. Stilling, of Strasbourg gave to the world in the *Revue Generale d'Ophthalmologie* his experience in the use of methyl-violet in the treatment of various affections, more especially those of the eye. When the article first appeared, May, 1890, I took the liberty of translating it, and subsequently my translation was published in two numbers, (non-consecutive) of Dr. Lanphear's *Kansas City Medical Journal*. I commenced the use of methyl-violet from the day I first read Prof. Stilling's article, for at that time I had on hand a case of suppurative iritis which had resisted all treatment, continuing step by step through the several stages of inflammation until panophthalmitis seemed inevitable.

The patient was an old man, 72 years of age, rather feeble physique, upon whom I had made extraction of a nuclear cataract some eight weeks previous to the attack of iritis. He had made a good recovery from the operation and with fair results, viz., with plus 11 D. $\frac{3}{8}$. Could read No. 2 with + 14 D. There was a slight amount of cortical substance remaining. The iritis did not ensue for a month after he had gone from the hospital, when it appeared quite suddenly one day as he was sitting in the harvest field watching the harvesters at work. He says that as he crossed the lot from one shade tree to another, in the full blaze of the bright August sun, he felt a sharp pain dart through the eyes, and from that time he was not fully free from pain, which gradually increased with intolerance of light and diminution of vision. It was several days after the attack before the patient returned to the city. When he presented himself I found an intense inflammation of the iris with plastic exudation in the front chambers.

Mydriatics and hot water were scrupulously used in connection with other antiphlogistics, but all to no purpose, the inflammation mounted higher and higher, and the exudation was more profuse and of a suppurative character; the iris becoming a deeper red until finally the whole chamber became blood red; the cornea began to grow steamy, there was intense ciliary injection; in fact the whole ball was aglow, and the lids swollen. There was much pain and total blindness. I despaired of any chance of saving the ball, much less any sight.

It was at this stage that I read Dr. Stilling's article on methyl-violet. I immediately had a preparation made, 1 to 1,000, which I had dropped into the eye, one or two drops at a time, thrice a day. This caused no irritation, but for a few hours there was little, if any, amelioration of the inflammation, although the eye felt better. At the end of the second day there was perceptible abatement of congestion, and the pain was nearly gone. The amount of medicine was increased. The conjunctival sac was filled at each application, morning, noon and night, and the inflammation gradually subsided.

The methyl-violet was continued for about three weeks, when the eyeball had become clear and free from inflammation. The shape and size of the ball had been perfectly conserved, the iris had assumed its natural color and brilliancy, although the pupil was nearly occluded and there was only perception of sight. The patient returned to his home in Kansas with the hope, through the means of a subsequent operation (to be made in few months) of regaining useful vision.

It has been about six or seven months since I commenced the use of methyl-violet in affection of the eye. I have used it a great many times, and in many patients, and have kept a careful

- ¹⁷ Berlin, 1796.
- ¹⁸ Kohler, Anleitung Zum Verhände. Leipzig, 1796, p. 361.
- ¹⁹ Journal der ausländischen Literatur von Hufeland. Schreger und Harfels. Julius, 1862, p. 65.
- ²⁰ Vorlesungen über die Krankheiten der Knochen. Book 1, pp. 229-231.
- ²¹ Siebold's Chiron. Bd. iii, p. 64.
- ²² Richter, Berlin, 1828, p. 411. (also Manuele di chirurgia, Milan, 1812.)
- ²³ A System of Operative Surgery. London, 1807 and 1809.
- ²⁴ Richter (Aug. G.) Chirurgische Bibliothek, Göttingen, 1772-1796.
- ²⁵ F. A. Ammon, Parallele der Französischen und Deutschen Chirurgie. Leipzig, 1823, p. 152.
- ²⁶ Richter, Berlin, 1828, p. 415. Theoretisch praktisches Handbuch der Lehre von den Bruchten und Verrenkungen der Knochen. Also Journal für Chirurgie. Bd. iii, p. 330.
- ²⁷ London Medical Repository. June 1825, p. 442.
- ²⁸ Philadelphia Medical Reporter, vol. ix, April, 1826, p. 279.
- ²⁹ De Fractur. Patellae: Diss. inaug. Berol. 1827, p. 20.
- ³⁰ Alcock, Practical Observations on Fractures of the Patella and of the Olecranon. London, 1823, p. 8.
- ³¹ Ortalli. De Fractura Patellae. Berolini, 1827, p. 52.
- ³² Arsenal de la Chirurgie Contemporaine, par G. Gaugot and F. J. Paris, 1837, p. 246.
- ³³ Dr. J. M. The Surgeon's Vade Mecum. London, 1865, p. 285.
- ³⁴ Holmes, A System of Surgery. London, 1864, p. 624.
- ³⁵ Bulletin de Thérapeutique, 1885, Vol. II, No. 48, p. 270.
- ³⁶ Mémoires "Traité des Fractures et des Luxations." Paris, 1747, t. 1, p. 2.
- ³⁷ A. Bonnet, Revue Med. Chirurgicale, 1851, t. x, p. 330.
- ³⁸ A. Cooper, San Francisco Medical Press, 1861, p. 517, et Gaz. Heliomédical.
- ³⁹ Trélat Bulletin de Thérapeutique, 1862, t. 63, p. 447.
- ⁴⁰ Wales, Mechanical Therapeutics, p. 472.
- ⁴¹ Wales, Mechanical Therapeutics, Philadelphia, 1867, p. 472.
- ⁴² Mechanical Therapeutics, Philip S. Wales, M.D., Surgeon, N. Philadelphia, 1867.
- ⁴³ Erichsen's Surgery 1872, p. 350 Vol. I.

record of several of the cases. It has been mostly used in phlyctenular conjunctivitis and granular conjunctivitis.

In cases of trachoma, when treatment cannot be continued by me on account of patients being obliged to return to their homes, out of the city, it has become my custom to prescribe a bottle of methyl-violet (1 to 1,000) to be used at home three times daily, and it has been invariably the case that these patients go on to recovery without any relapses, and that the medicine never acts as an irritant, but is always soothing and agreeable. I have used it with excellent effect in dacryocystitis by means of the lachrymal syringe. I have also used it in otitis media purulenta but not with as marked benefit as in affections of the eye, lachrymal apparatus, and nasal catarrh.

I have employed this agent in microscopy as a staining material, knowing its special and thorough action as a stain for different forms of microbes, and especially for the micrococci, and that it always means death to the bacillus when it comes in contact with him; striking, as it were, to the heart or nucleus of all cells; paralyzing all vital action at once; but it had not occurred to me to employ it as a therapeutic agent even in those diseases which are generally conceded to have their etiology in the microbes, until my attention was called to it by Prof. Stilling's able article to which I have referred.

Since I have been using this agent I have not had the opportunity of employing it in a single case of gonorrhoeal ophthalmia. As yet, of course, the remedy has not been sufficiently used to establish it as so valuable a remedy as Dr. Stilling would claim for it.

Methyl-violet may be used as a local, topical and general systemic agent, in fluid or pomade, spray $\frac{1}{2}$ to 1 per cent. It remains to be seen if it shall prove a valuable remedy in pulmonary affection, in pyæmia, etc. If it has a special predilection for the bacillus and cocci, we shall look for it as a boon in most diseases.

Within the last few days I have had occasion to use the methyl-violet in two cases, one of iridocyclitis and the other choroido-clyclo-iritis, both of a most serious nature; that of iridocyclitis occurred in a reverend gentleman, Mr. D., age 55, blue eyes. This patient consulted me December 9, complaining of quite a severe pain in the right eye, with dimness of vision. Examination revealed acute inflammation of the iris with intense deep red congestion of the sub-conjunctival vessels over the entire anterior scleral surface. The pupil was contracted and inactive, and would not respond in the least to mydriatics. A 1 per cent. solution of sulphate of atropia dropped into the eye five or six times a day made no impression whatever, not even controlling in the least photophobia or congestion; in fact all the symptoms grew steadily worse, and on the third day the cornea lost its

transparency, became steamy, so that the iris was nearly hidden and the vision was gone; could not see to count fingers, and the fellow-eye had taken on symptoms of irritation, and its vision was considerably reduced. At this period, December 11, I ordered methyl-violet, $\frac{1}{10}$ per cent., dropped in the eye every hour, in connection with the sulphate of atropia, and to my great delight the next day, December 12, I found the pupil dilated to more than twice its size of the day before, the congestion subsiding, the cornea clearer, and the vision sufficient to count fingers. The treatment was continued, and on the following day the patient was able to recognize a person across the room, pain was gone, redness less and pupil widely dilated. December 15, pupil wide open and vision $\frac{3}{4}$, eye fast recovering.

The methyl-violet has quite a mydriatic effect and also controls the power of accommodation to a considerable extent; though it is claimed by some that it does not affect the power of accommodation. This fact I have verified many times, by using it alone without atropia. In the above case I feel confident that the methyl-violet, from its diffusibility and germicidal effect on the pyogenic microbe, cut short the disease and so saved the eye.

I do not believe that in this case the mydriatic effect of the atropia could have obtained without the methyl violet; besides, the methyl violet controlled the irritating effect of the atropia on the cornea, and checked the keratitis.

The other case, choroido-cyclitis, occurred in a young man of 25 years, dark brown eyes, A. B. Patterson, from Juniata, Neb., a station agent on the Missouri Pacific railroad. The history, as gained from the patient, was as follows: While walking down the street October 13, with a pen-knife open in my hand, I met a friend, who in play knocked my hand with the knife so that the open blade pierced my right cheek, going into the eye, and then the doctor put a stitch in the eyeball and assured me that the sight would be all right (a German doctor). For about ten days the sight was very good, and then the eye began to pain and I could not bear the light, and the sight gradually diminished and the pain grew worse. An examination revealed a scar of the right cheek, lower lid and eyeball; that of the eyeball about 10 mm. long, about one-third of which extended into the cornea from the inner inferior region, near the attachment of the inferior rectus muscle. The cut of the cornea embraced the entire layers of the cornea, and evidently the blade went through the sclera and choroidal, though there was no evidence of its cutting the iris. The pupil was contracted, and the vision was not sufficient to count fingers, and photophobia intense. I ordered a 1 per cent. solution of atropia to be dropped into the eye every two hours, night and day. The second day the patient was sent to my

rooms; the mydriatic had not had the least effect. The ophthalmoscope revealed a grayish, light-colored body, with small, pale blood-vessels mounting up over it, projecting from the region of the ciliary body, and the sclera immediately exterior was swollen or bulged. There was evidently detached retina, with exudation beneath the retina. At this date I commenced the use of methyl violet, and had it dropped into the eye every hour, night and day. On the following day there was some dilation of the pupil, and less pain and soreness. December 16 I injected a 10 per cent. solution, 10 m., in the eye through the sclera, by means of the hypodermic syringe. The soreness has subsided and the pupil is more open, although the exudations are much the same.

Dr. Stilling speaks of injecting the vitreous of a rabbit without harm to the eye. My experience so far has been that the good effect from this agent is especially to be realized in inflammation of the deeper structures of the eyeball, owing probably to the great diffusibility and penetrability of the aniline, traversing almost immediately the cornea and sclera to the chambers of the eyeball, and having for its predilection the bacillus and micrococci. In ulceration of the cornea I have used it with most excellent results in the form of pomade, 1 to 200. For marginal blepharitis, or tinea tarsi, the methyl violet pomade, $\frac{1}{2}$ per cent., carefully worked into the roots of the lashes by means of a spatula, works a speedy cure. Prof. Stilling, from his bacteriological experiments, found that milk mixed with methyl violet would not sour, nor would butter become rancid; that urine even could remain in a thermostat at 32° C. for a week without putrefaction, or presenting any bacteria whatever. In fact, any substance containing a solution of methyl violet of even 1 to 32,000, is absolutely indennified. This agent acts as an antiseptic, killing the pyogenic bacteria, and from its diffusibility and non-destructiveness to tissues, it is superior to the other known antiseptics, and especially to thermo-cautery, which is so efficient a germicide, but can only be used at limited points.

In conclusion I would say that it is most important that the drug (methyl violet) be chemically pure, and free from arsenic. The article I have used I obtained from H. W. Evans & Bro., proprietors of the Diamond Drug Store, 908 Main St., Kansas City, Mo. An analysis made by our City Chemist, Dr. R. R. Hunter, and also by Dr. Claud C. Hamilton, Demonstrator of Chemistry at University Med. Col., shows no trace of arsenic.

THE WOMAN'S COMMITTEE OF THE WORLD'S CONGRESS AUXILIARY ON PHYSICIANS.—DR. Sarah H. Stephenson, Ch'n; Drs. Julia H. Smith, Mary H. Thompson, Mary Mixer, Fannie Dickinson, Elizabeth Chapin, Sarah H. Brayton, Julia Low, W. P. MacCracken, Harriet Heyl Carey, Rachel Hickey, all of Chicago.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

THE CURABILITY OF CANCEROUS TUMORS BY INJECTIONS OF BICHLORIDE OF MERCURY.—According to the Paris correspondent of the *Medical Press and Circular* for September 17, 1890, PROFESSOR POUCEL, surgeon to the Marseilles Hospital, suggested, in 1884, that, in order to explain the production of cancer, it would be found at no distant date that the microbe of cancer would be discovered by the microscope. Since then efforts were made to prove the parasitic origin of the disease, and some pretended to have discovered the new microbe, but soon afterward the pathogenic value of the bacilli, and it was even said that the microorganism was not necessary to explain the clinical phenomena of cancer. Assuredly the transport of living cancerous cells by the veins, and above all by the lymphatics, would produce homologous tumors, wherever these cells could find favorable conditions for germination. This mechanism, although explaining the generalization of the tumor, does not clear up the cause. The bacilli of cancer, as in the case of tubercles, exact certain conditions which are transmissible in an hereditary sense, and which constitute the predisposition and the tendency. When these exist, the rapid growth of these microorganisms becomes possible, and through their contact the epithelium becomes inflamed, proliferous and deformed, characterizing cancer. It was with this idea that he undertook a series of researches at the hospital of Marseilles. He had shortly before obtained a prompt cure of a malignant pustule of a very bad form by injections of corrosive sublimate around its base, and these injections proved to him, first, that the bichloride had no ill effect on the tissues; and secondly, that it was efficacious against microbes absorbed through the lymphatics. It appeared to him, then, that it was quite rational to apply this treatment to cancer, or at least to tumors of a cancerous aspect of which the microbe (if there be one) is transmitted by the same means. Seven patients have already been submitted to this treatment, of whom the details are here given. The first was a woman without any syphilitic antecedents, whom he had treated for a long time with iodide of potassium. In the month of February, 1890, she entered the hospital for an ulcerated cancer of the right breast, which commenced ten months previously. The tumor was hard, uneven, and occupied all the mammary glands. The nipple was retracted, and the ulceration occupied the under part, giving exit to a fetid and abundant discharge. The axillary glands were as yet untouched, the tumor was free, and the general condition of the patient good. On the same day of her entry six injections (the half of an ordinary subcutaneous syringe

each time) of a solution of bichloride of mercury (1 in 1,000), were made into the most indurated points. No salivation followed, but the breast became a little inflamed. A month subsequently the woman returned, when it was found that the tumor had diminished in volume, and another series of injections were made, which were renewed four days subsequently. The decrease of the tumor was much more marked, and the fetid discharge had ceased. Unfortunately, a few days afterward, the patient was carried off by an attack of angina pectoris, to which she had been for several years subject. Two other patients were treated without success, but both of whom were very advanced in age, one of them being 81. The fourth patient was a retired officer. M. Poucel was called to him for a large phlegmon in the groin. After incision, a hard ganglion, of the size of a nut, was discovered, and as the man had had some dozen of years previously an indurated chancre, he was ordered pills of protoiodide of mercury. The tumor increased, in spite of this, rapidly, and soon attained the size of a large goose-egg. The son of the patient, a navy surgeon, was called in for consultation, and the cancerous nature of the affection was fully recognized. The first treatment was replaced by injection of the sublimate solution, a series of six every two days. At the end of three weeks all trace of the tumor had disappeared, and no return had taken place up to the present. Curious to say, the son had noticed in his own groin two small ganglions, which had dated three years back. However, about a year ago they became much more enlarged and harder, in spite of every possible treatment. Struck with the result of injections in his father's case, he tried them on himself, and for that purpose injected four half-syringefuls daily. At the end of a week these glands disappeared. A sixth case was that of a man who said that he had something wrong with his rectum, as he had often remarked a fetid, bloody discharge from the anus. Examination revealed the existence of a malignant tumor. Four injections were made daily, and in twenty days the cancer had *vanished*. The seventh and last case was that of a woman, aged 58. She was very emaciated, and presented in the left breast a hardened, nodulated tumor, about the size of a large walnut. There was no retraction of the nipple nor any affection of the ganglions. Two injections were made, and renewed eight days subsequently. Three months afterward Dr. Poucel revisited the patient, when no trace of the tumor could be found. Four more patients are at present undergoing the treatment, and a notable progress is marked in each of them. In concluding, the author says that he does not pretend that the real treatment of cancer has been found, but what he can affirm is that certain tumors of a *cancerous appearance* are susceptible of being removed by the injections in question, and

the chances, as may be conceived, are much greater when practiced at the commencement. He used the words *cancerous appearance* advisedly, as in some subjects tainted with hereditary syphilis tumors resembling cancer are observed. However, in these cases iodide of potassium is the specific, whereas it has no effect on the true cancer. Several of his patients were treated, as stated above, by that drug without result. Therefore, it may be regarded as almost certain that all the cases mentioned were real cancers.—*Pacific Med. Record*.

KOCH'S TREATMENT; GENERAL RESULTS.—In a supplement to the December number of the *Bristol Medico-Chirurgical Journal*, Drs. MARKHAM SKERRITT and BARCLAY BARON give an account of their observations of Koch's treatment during a recent visit to Berlin. They reached the German capital on Dec. 5, and stayed there until Dec. 13. They saw a very large number of cases presenting the results of treatment under the most varied conditions: at the Charité, under Leyden, Fräntzel, and Gerhardt; at the Lazarus Hospital, under Langenbuch; and in the clinics of von Bergmann, B. Fraenkel, Cornet, and Levy. They also had an opportunity of seeing Koch's original cases at a demonstration given to the Hufeland Society, by Prof. Paul Guttman, at the Moabit Hospital. A full description of the method of procedure, and of the immediate effects of the injections in different forms of tuberculous disease, is given. The types of reaction are classified as follows: 1. Typical, marked reaction to small early dose, diminishing reaction to the same or even to increasing doses. 2. Increased reaction to the same or a diminished dose. 3. Prolonged or deferred reaction. 4. Effect of reaction on hectic; *a*, favorable, when there is a tendency to the substitution of the reaction type for the hectic type, and *b*, negative, when the hectic persists unaffected by reaction. 5. Fever originated by injection. These various types are illustrated by cases and charts, and the cause of the diversity of action of the remedy in different cases is discussed. With regard to the results of the treatment in tuberculous disease of bones and joints, Drs. Skerritt and Baron say that the surgeons informed them that they had never seen, under any treatment, any approach to the rapidity with which improvement took place under the injections. They themselves saw cases where sinuses in connection with the diseased bones and joints, which had long remained open in spite of all previous treatment, rapidly and completely closed. With regard to glands, it is pointed out that the usual local change is swelling and tenderness during reaction, followed by gradual diminution in size. Suppuration does not commonly occur. In the larynx the local reaction may produce increase of pain in swallowing, increase of cough and expectoration, a feeling of

dryness and constriction, greater hoarseness, perhaps aphonia, and sometimes local pain. Contrary to what the authors anticipated, they found that, as a rule, no serious obstruction to breathing was produced, and in many cases none at all. With regard to the lung, they state that little can be said as to improvement in physical signs; "in some cases riles and dulness are said to have diminished, and bronchial breathing to have been replaced by vesicular, but as yet time is too short to allow of decided evidence on this point." They add that Koch claims to have completely cured two phthisical patients, with one of whom they had the opportunity of speaking. They also saw a patient in whom, during three weeks' treatment, the disease markedly extended in both lungs, and a cavity formed; dyspnoea, absent before, made its appearance; bacilli, previously few in number, became numerous, and the sputum was increased in amount. One of the cases seen by them, in which there was most marked lung reaction, had been examined again and again without the detection of a single suspicious sign. They also saw many patients in whom the injection revealed in very varied parts previously unsuspected tubercle. In no case, therefore, even the least suspicious, should an injection be made without the most careful and thorough preliminary examination, and the greatest caution should be observed as to dosage. In tuberculosis of the lungs and larynx the initial dose should be one milligram, which is gradually increased, one or more "fever free" days being allowed between the injections. For purposes of diagnosis exact reliance cannot be placed upon the result of a single injection. Skeritt and Baron saw a case of established phthisis, with bacilli, in which no reaction occurred until the dose had reached one centigram, and they were informed that this was by no means a solitary instance. On the other hand, reaction occurred in patients who otherwise presented no evidence whatever of tuberculosis; as, for instance, in a girl with post-scarlatinal nephritis. They sum up as follows: "The evidence at present at our disposal warrants the conclusion that the beneficial effects of the remedy is undoubted in tuberculosis of the skin, bones, joints, glands, and throat. With regard to pulmonary phthisis, whilst there is good reason to hope that in suitable cases a most satisfactory result may be obtained from this treatment, sufficient time has not as yet elapsed to allow of the formation of any accurate estimate of its value."—*British Medical Journal*.

TREATMENT OF ERYSIPELAS.—An elaborate research, clinical and bacteriological, has recently been published by Professor Nussbaum's assistant, DR. JULIUS FRISLER, on the treatment of erysipelas by ichthyol, a plan which has been for some years extensively adopted in Munich.

From laboratory experiments it was evident that, though ichthyol has only a slight effect in preventing the development of staphylococci, it has a very potent deterrent influence on the multiplication of streptococci, and it is well known that it is the latter kind of bacteria that are the cause of erysipelas. The method of treatment consists mainly of rubbing a strong ichthyol ointment energetically, and for ten minutes at a time, into the affected surface and its neighborhood; ichthyol in the form of pills may also be given internally. Where there is a wound it must be very carefully disinfected, and an antiseptic dressing applied. The results of this treatment as compared with ordinary methods are embodied in several instructive tables. From these it appears that while the mean duration of the cases treated by other methods from 1880 to 1888 was about twelve days, in no single year falling below nine days, the cases treated by ichthyol from 1886 to 1888 presented a mean duration of under seven days, while in the first half of 1889 it fell to 5.6 days.—*Lancet*.

Medicine.

KOCH'S REMEDY IN TUBERCULOSIS OF THE LARYNX.—PROF. H. KRAUSE contributes the following interesting report to the *Therapeutische Monatshefte* for December, 1890. He says it is apparent that a definite result cannot be affirmed, as at the time of writing only two and one-half weeks had elapsed since beginning treatment, but the observations are of special interest at this time because of the opportunity of observing the direct effect of the remedy upon tubercular mucous membranes, which can be better seen than the effect upon lupus, for there the process is in a measure concealed by the thick crusts which form on the surface. The effect in the larynx is not as "stormy" as has been reported by some surgeons. He says nothing of the general symptoms, fever, etc., though he has noted considerable variation from those usually described.

Unquestionably a specific reaction is produced in the larynx; characterized by diffuse redness and swelling, with at first increase and later complete loss of secretion; also punctiform and diffuse hemorrhages, superficial and deep exfoliation. In ulcers the base was changed, and in favorable cases was covered by a dirty gray coat that was thrown off, leaving a clean granulating surface, that showed a marked tendency to heal. Absorption of infiltrated masses could be determined. The patients often experience a sense of constriction, and in cases presenting marked infiltration there is frequently some pain.

A cure cannot as yet be affirmed, owing to the short time that the remedy has been in use, but from its action we may look for favorable results in those cases in which the disease is not too far advanced. Especial care must be exercised in

the treatment of advanced cases, as a too rapid increase in the dose may cause very grave symptoms.

Krause mentions a case that had been under observation for eight weeks, in the last two and one-half of which the treatment had been with Koch's remedy. A decided change for the worse was noticed in this patient, which the writer is inclined to attribute to the fact that the limitations of the remedy have not been determined, and in consequence it has not been decided at what time surgical interference is necessary.

The writer describes the following case: A young woman, well nourished, presented herself at the policlinic. The right lung was involved, the mucous membrane of the larynx presented a diffuse swelling, so extensive as to interfere with deglutition. The epiglottis was three times its normal size. Lactic acid and curetting were employed, and the patient improved so that swallowing was easy and the cavity of the larynx could be seen, showing the gray ulcerations left by the caustic. In this stage Koch's remedy was employed. Twenty-four hours after the injection the secretion disappeared, the infiltrated ligaments and epiglottis decreased. A few days later the swelling increased, but a gray coating was soon cast off, leaving a clean granulating surface. The later progress of the case with an increase in the dose, showed similar results, excepting that the action was more vigorous, and left deep ulcerating patches.

Another case was that of a young man who had in the posterior wall of the larynx a small tumor, that after 1 milligram of the remedy was thrown off completely, leaving a clean granulating surface that soon healed.

The writer contributes several similar cases, showing the more or less favorable action of the remedy.

NOCTURNAL ENURESIS TREATED BY POSTURE.

—DR. VAN TRENTON, of La Hague, in a paper read before the Berlin Congress, offered the simplest explanation and treatment of nocturnal enuresis that has lately been presented. His theory is that in some children there is an insufficiency of the sphincter vesicæ, which permits the urine to come in contact with the upper urethra, and this in turn, by reflex action, causes the detrusor urinæ to act. He argues that it cannot be that this trouble is due to the impression of distension of the walls of the bladder, because not a few children wet the bed within a period, for example two hours, after going to bed that is too brief to have the bladder in a distended condition. His plan of treatment undertakes to prevent the urine from flowing into the urethra, by raising the foot of the bed. He has made fourteen cures by this method, with the two added precautions of having the child empty the bladder just before getting

into bed, and of allowing no drink to be taken by the patient for some while before bedtime.—*Annals of Gynecology.*

Obstetrics and Diseases of Women.

LAPAROTOMY. — M. C. JACOBS (*Bulletins et Mémoires de la Société Obstétricale et Gynécologique de Paris, Séance du 11 Décembre, 1890*) reports a series of fifty laparotomies with only three deaths, or a mortality of but 6 per cent.

Five operations were for uterine fibromas, including two hysterectomies, with extra-peritoneal treatment of the pedicle, recovery; one hysterectomy, in which the pedicle was dropped with its elastic ligature; this was followed by inflammation necessitating two consecutive laparotomies, with ultimate recovery; one double castration, cure; and two ablations of pedunculated fibroids, attended with recovery. Three operations were performed for tuberculosis of the peritoneum, with three recoveries from the operation. The writer justly observes that only the lapse of considerable time would permit one to say that there was complete recovery. Twenty-one operations were performed for salpingitis, eighteen with castration and ablation of the diseased tubes. The writer reports excellent results in these cases. In unilateral purulent salpingitis the ablation of one tube and ovary was sufficient, while in the catarrhal and interstitial forms the removal of both tubes and ovaries is indicated. Two deaths are reported in this group, one from septic peritonitis the other from pulmonary congestion.

Dr. Jacobs reports five exploratory laparotomies, but only one of these can be classed strictly under this tentative procedure, the abdomen being opened for a phantom tumor; another case was one in which the abdomen was opened in consequence of a septic accident, following a previous laparotomy; in another case a purulent foyer was found in the upper portion of the cicatrix. Eight ovariectomies with eight recoveries are reported, two of them were for cysts of the broad ligament. Five hysterectomies were performed for painful prolapse and retroflexions. Sufficient time has not elapsed to permit a definite answer as to results.

THE INFLUENCE OF ARTIFICIAL RESPIRATION ON THE HEART OF THE NEWLY-BORN.—DR. W. E. FOREST read a paper in the Section in Pædiatrics, New York Academy of Medicine, Dec. 11, 1890, with this title, based upon three interesting cases. In the first, after prolonged labor, the child was apparently dead. No pulsation of the heart could be detected by the hand, but by the ear it was found to be beating sixty a minute. After artificial respiration for fifteen minutes the pulsations increased to 120, but rapidly decreased in number when the child was left for a few minutes to itself. This was repeated many times with a similar result. After an hour and forty-five minutes the heart continued to beat, but as

no effort at respiration had been made by the child, the case was abandoned. The second case lived, the result of artificial respiration being invariably to increase the cardiac pulsations. In the third case artificial respiration was continued an hour and forty minutes before the child could breathe.

The method employed is in some respects entirely new. The child is placed in a pail of hot water to maintain the vital heat. This the author believes is a point of great importance. The head is then grasped by the hand and thrown backward so as to throw the vertebræ of the neck forward. The hands are drawn up and pressed against the chest. This compresses the œsophagus between the larynx and vertebræ, and at the same time the mouth opens. The physician then blows strongly into the mouth of the child. The œsophagus thus compressed prevents the entrance of air into the stomach. The head is then thrown forward, and the arms brought down to the side so as to expel the air from the lungs.

The points of especial importance are the use of the hot bath to maintain the vital heat; the use of the ear to detect the cardiac pulsations which could not be felt by the hand; the necessity of long-continued effort if pulsations can be heard; and the peculiar method of compressing the œsophagus.

Dr. W. H. Thompson, strongly advocated the hot bath. The method of artificial respiration was ingenious, and certainly showed that the lungs had been inflated.

SEXUPLE PREGNANCY.—VASALLI (*Rassegna di Scienze Med.*) reports the case of a woman who in the fourth month of pregnancy reached a size equal to that of term. She was taken with pains and in the course of six hours was delivered of six fœti. Their combined weight equalled 1,730 grams, the largest weighing 305 and the smallest 250 grams. Their length varied from 22 to 26 cm. The single placenta was large, adherent, and had to be removed piecemeal. It presented six distinct fetal sacs.

Bacteriology.

MICROBE OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.—At the present time very few opportunities occur of studying epidemic cerebro-spinal meningitis. DR. BONOME has had such an opportunity, and made careful investigations as regards the anatomy and etiology of this disease. The outbreak occurred near Padua. His conclusions, together with an account of his experiments, are published in Ziegler's *Beiträge zur pathologische Anatomie und zur allgemeine Pathologie*. Dr. Bonome was able to examine thoroughly the bodies of five patients who had died from the disease, and the meningeal exudation from a sixth. In addition, in several other cases the blood and catarrhal secretions from the throat

and nasal cavities were submitted to investigation. He succeeded in isolating from the exudations of the cerebro-spinal meninges, and from hæmorrhagic collections in the lungs, a streptococcus, which did not, however, grow readily on artificial media, and when so cultivated, or after being preserved in a dry state, soon lost its pathogenic characters. In white mice and rabbits the microorganism produced the same effects as those brought about by injections of the pneumococcus or meningococcus, fibrinous inflammations being induced, whilst in guinea pigs and dogs the microorganism scarcely reacted at all to the pure cultures. This streptococcus found by Dr. Bonome differs from the pneumococcus and meningococcus again in the ball-shaped appearance of the colonies on agar-agar plate cultivations, in its inability to grow on blood serum, and in the difficulty which is experienced in carrying the cultures through five or six generations. Also it fails to produce true septicæmia in white mice; and when rabbits are inoculated, the micrococci obtained from the blood are arranged in chains surrounded by a capsule, and the same forms are obtained from the gelatinous transudation met with in mice, guinea pigs, and dogs which have been artificially infected with the disease. The streptococcus, again, is distinguished from the streptococcus of erysipelas by its action on animals and by its failure to grow on gelatine and blood-serum, and also by the appearance of the colonies on agar-agar plates. In contrast with other microorganisms which are morphological analogues many differences can be made out. Thus, it differs from the streptococcus pyogenes and from the septic streptococcus found in earth by Nicolaier and Guarneri; also it can be clearly distinguished from the streptococcus found by Loeffler in cases of diphtheria, and from the organism found by Weichselbaum in some cases of pneumonia. After careful consideration of all the points in connection with this epidemic at Padua, and the results of his bacteriological examinations, Dr. Bonome claims that he has substantiated the existence of the microbe of epidemic cerebro-spinal meningitis.—*Lancet*.

PATHOGENESIS OF TETANUS.—FABER (*Berliner Klin. Wochenschr.*) has separated by filtration, from pure cultures of virulent tetanus bacilli, a substance that is wholly free from germs, and yet when it is injected into animals, either in the cellular tissue or blood, it produces the clinical picture of tetanus. There seems to be a certain latent period, before the production of the symptoms, that varies with the virulence of the culture from which the extract is prepared. When injected into the blood it produces general convulsions, when into the cellular tissue these are associated with local convulsions. No specific immunity could be determined as a result of the injections.

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SATURDAY, FEBRUARY 28, 1891.

SECTION MEETINGS OF THE ASSOCIATION.

The real success of the Association meeting depends mainly upon the work done in the Sections. The general addresses vary widely, and although they often present very excellent discussions and résumés of our present knowledge, still they are not presumed to reflect the best scientific work, but to deal in a general and popular way with medical interests generally. The officers of the Sections are, after all, more influential in directing medical progress. They should not leave the topics altogether to the chance of volunteers to prepare and read papers; nor after inviting and receiving a dozen or more papers on widely differing topics, and finding it impossible to group them in any natural order, should they proceed to serve them up on the time plan in the order of their reception. The officers of each Section should select one or more general topics that have a broad interest to the whole profession, then invite several leading men to discuss the different phases of the subject. After this voluntary papers may be admitted. In this way the listener could get some general idea of the views of the best authorities, in some of the different fields of medicine.

More important still is the method of presenting papers. Each reader should remember that his listener is a practical man, who comes for a practical purpose of enlarging his knowledge of science; also that his medical position or reputation is of little moment to the hearer. The hearer, like the Athenian of old, comes to hear something new;

or to compare his knowledge with others. First of all the writer of a paper should be convinced that he has some new fact to communicate; some new view of the etiology, pathology or therapeutics of some disease; or some new effect of a medicine; or some fact that has not been mentioned before. Then state this fact in the briefest way possible. If it be relating to pneumonia, he reflects on the intelligence of his audience by giving the history and pathology of this disease, and the many views of different authors, when he merely wants to call attention to a new remedy and method of cure. If he has made a discovery in the pathology of diphtheria, the history and views of others of the pathology is an assumption that his audience are first-course students in medicine, and can not appreciate his views unless the entire history is given. If it is on a surgical subject, or any other branch of the practice, it is always in bad taste to go over in detail general principles as laid down in any text-book. It is also very suspicious for any writer to load down his topic with references to foreign authorities, which the average reader can not verify, or even to quote largely from home writers, and close up with a ponderous list of references. If he is writing a book or prize essay, it may not be noticeable, but for a paper to be read at the Association meeting, it should not be. All the listener wants are the writer's conclusions and the facts upon which they are based. He will listen cheerfully to a full elucidation of these, but turn away wearied when the writer falls back to describe well known facts.

A paper for the Association should only be exhaustive along some new unknown range of study, and even then the writer will be praised for giving his conclusions, and refer the listener to a printed copy when it appears in the Association Journal. THE JOURNAL, in not a few instances, has suffered from the space given to long papers, which were but a mere repetition of what could be found in every text-book. These papers were read before some Section, and their publication was inevitable. The writers were merely publishing their own weakness, and THE JOURNAL can not be made responsible. The elevation of the tone and character of THE JOURNAL will largely depend on the writers and readers of papers at the Association meetings. Editors may write well, and make selections of the best current literature, but if the best half of THE JOURNAL is

filled with heavy padded, pedantic and text-book papers, their efforts are sadly neutralized.

Is it not true that journalistic literature is unfortunately loaded down, in all sections of the country, with papers made up from text-books, that suggest nothing, or teach nothing, that has not been known before? THE JOURNAL has the same experience as others, but, unlike them, it can address its writers in advance. At the coming meeting at Washington over a hundred papers will be presented and read. Each writer will always represent himself more than the topic he discusses. If he has anything new to communicate, it will not be lost in faults of presentation, or of style of writing. If he has nothing new, all the elegant flow of words, and learned references to vast libraries can never give it life or vitality. Each writer should remember that he can not in any single paper of any reasonable length exhaust his topic, or even convey a complete general impression of the entire subject. This is very evident in the attempts of really expert men to give reports of the progress of science in any one department, which is always imperfect, and becomes more so every year, for the reason that the progress of medicine is so rapid and expansive that no one man can present any complete picture of even one department. Each writer should remember that his personal views and opinions are only valuable when they are sustained by real or assumed facts, which his audience would like to hear, so as to form an opinion for themselves.

The facts of medicine are like those of astronomy, always open to a marked personal equation which is a source of error that needs constant correction. A writer may be very positive in his conclusions, but a study and comparison by others of the same topic fail to sustain him; hence it is dangerous to urge the completeness and accuracy of any facts beyond all others. Each writer should never forget that the Association and its meeting represents the science of medicine in this country. Papers which have been praised in his local society come before a different audience in the Section meetings. Nothing can be greater injustice personally and to the Society than careless, confused egotistical papers.

THE JOURNAL particularly urges all writers who are to take part in the coming meeting to present their best work, in the best manner. It

would also urge the officers of each Section to discriminate and arrange papers that are offered, and advise writers frankly as to the merits of their papers. Brevity and condensation are the practical needs of the medical public. While the general character of the papers read at the Association meetings have been steadily improving, the demand each year is for broader more thorough scientific discussions. The theories and conclusions of last year can not always be trusted to-day. The progress of medical science is rapid and intense, and the aspect of many supposed facts have changed materially. A repetition of last year's papers, unless fortified by some new evidence and new views, are open to grave criticisms. Extraordinary results from the application of remedies or methods of treatment bring the writer into a centre of suspicious criticism. All such papers need to be grouped with great care and exactness.

Finally, THE JOURNAL, upon whom much of the criticism falls for bringing to light the varied papers which are read before the Association, would remind all the coming writers, that the more accurately and scientifically they present their papers, the greater the success of the meeting. An *ideal* journal can only be made by embodying the high scientific ideals of the writers in its pages.

The most practical fields of work are observing, grouping and comparing real and supposed facts, not to discover their full meaning, but their possible practical relation. This is the spirit and purpose of the Association, and the responsibility and scientific success of the coming meeting will turn on the recognition of this fact.

The members of the Association look to the officers of the Sections and the writers to make the coming meeting superior to all others. This will be merely along the line of all science in evolutionary growth.

DIET IN BRIGHT'S DISEASE.

LÉFÈVRE, in a paper before the International Medical Congress, on "The Treatment of Bright's Disease," maintained that the chief indication was the prevention of uræmia. With this end in view he laid special stress upon the importance of lessening nitrogenous food to a point where tissue waste would be just balanced, which he placed at about 80 grams of albumen daily for

the average adult. In practice he thinks the best results will be achieved by a milk diet, to which a certain proportion of carbo-hydrates are added, as the nitrogenized constituents are present in too great relative proportion in milk.

If we adopt the view that "uræmia" is dependent upon an excess of urea in the blood (WILLIS), or of carbonate of ammonia (FRIEDRICH), or of creatin and creatinine (OPPLER, PERLS and ZALESKY), it is at once apparent that a lessening of the proteids of the diet would decrease the amount of these nitrogen-containing substances, in the blood.

Unfortunately, the process is not quite as simple as these views would lead us to think. In Bright's disease there are profound changes in the blood, and one writer, REES, asserts that the symptoms of uræmia are caused by tenuity of the blood and increased vascular pressure. If this is true, it is possible that a marked lessening in the proteids of the diet might aggravate the very condition it was intended to relieve.

Unquestionably a proper regulation of the diet, so as to include only a due proportion of nitrogenous food, is of the utmost importance, particularly in the early stage of Bright's disease, and nephritis generally. In this stage the kidney should be placed physiologically at rest as far as possible. Whether in the later stages, when uræmic symptoms may be looked for, and marked changes in the blood and vascular pressure are present, much is to be hoped for from a mere lessening of nitrogenous food, is still a matter of grave doubt, and in the light of the very uncertain pathology of uræmia, perhaps hardly justifiable.

DIGITAL SYPHILIS OF MEDICAL PRACTITIONERS.

A correspondent in the *Southern Medical Record*, January, quotes DR. FESSENDEN N. OTIS, of New York, in regard to the occurrence of an intractable sore on the finger of a surgeon or accoucheur due to syphilis. Whenever a sluggish lesion in this situation presents itself, he always suspects specific infection, and narrates a case illustrative of some of the difficulties that surround a conclusive diagnosis. About two years ago, he chanced to be at Lakewood, where he saw a gentleman going about with his fingers wrapped up in a handkerchief. The latter gentleman was a

surgeon of large practice in a Western city, and having been introduced to DR. OTIS, showed him a finger that had been troublesome for some months, dating back to the time of a certain surgical operation, in the course of which his finger had been cut with the knife. The operation was an ordinary hare-lip operation, on a young German girl, for removal of a lesion that was regarded as cancer of the lip. A sore soon after made its appearance about the nail, and became troublesome. Recognizing the possibility of causal relations between this sore and the lip lesion of the German girl, the finger was laid open down to the bone and scraped, dressed antiseptically and put in a plaster bandage. He had at the time a suspicious eruption, and some of the glands were enlarged, but not the epitrochlear. He was put on mixed treatment, and as he was quite unable to do any professional work, was advised to go abroad. He went to England, and while there consulted SIR HENRY THOMPSON. The latter examined the patient, and his finger and eruption, carefully, and denied the existence of syphilis in the case; he advised him to throw away his medicines and go home. He returned to this country and related the circumstances of his visit to the London surgeon to DR. OTIS, who strongly recommended him to hunt up the German girl upon whom he had operated. He did so, and subsequently reported that she had developed unmistakable symptoms of secondary syphilis.

At the Hunterian Society, recently, MR. C. J. SYMONDS stated that he had known of as many as five medical men with genuine Hunterian chancre of the finger, acquired in obstetric practice. He has known amputation of the affected finger to be performed where the joint was much endangered; but he had not yet found this measure needful. If the sore be thoroughly scraped and cauterized with acid nitrate of mercury, the bone and the joint will most likely be saved.

HYDROCYANIC ACID ANTIDOTAL TO TUBERCULOSIS.

SCHRÖTTER, of the University of Vienna, has announced to his colleagues of the Society of Physicians that he has made a partial investigation regarding the alleged discovery of the immunity of a certain class of artisans in Austria against tuberculosis, and he has come to the conclusion that that disease is very rare in those

workshops where the cyan-metals, as they are called, cyan-gold and cyan-silver, are employed. He holds that the hydrocyanic acid is the efficient element in these chemicals, and that he has data sufficient to warrant the systematic trial of that agent as a bactericide in tuberculosis. Incidentally, it may be remarked that he has found that not only is it a very rare occurrence, among the workmen of the class referred to, for pulmonary disease to attack one of them, but also it is often remarked that those who come from other places and other works with incipient troubles have been benefited, and some of them have been entirely cured, at least so far as the testimony of the workmen themselves went.

There are several large factories in Southern Austria where fine metallic wares are made, and in the finishing of them the cyan-metals dissolved in the cyanide of potassium are required to be used in order to galvanize them in silver or gold, and the atmosphere of these factories is more or less heavily charged with the complex vapors given off from the vats and chambers; the assumption being made, however, that the potential chemical is the acid, and not the precious metals that are combined with it.

EDITORIAL NOTES.

THE MEDICAL SOCIETY OF THE STATE OF TENNESSEE.—The annual meeting of this State organization will convene at Nashville on April 14, and will be in session for three days. The officers of the Society have made ample provisions for a most successful meeting. They advise us that an unusually full list of valuable papers is promised by men who will not fail to sustain their well established reputations both as writers and speakers. The home of the President of our Association will not only honor its State by this meeting of its representative men, but we look to Tennessee for a strong reinforcement to the ranks of the American Medical Association at its next annual meeting.

CENTRAL-ZEITUNG FÜR DAS KOCH'SCHE HEILVERFAHREN is the title of a new journal devoted especially to progress in the treatment of tuberculosis and other infectious diseases. It appears on the first and sixteenth of each month. The current issue, No. 3, contains the article of Prof. Virchow on the changes produced in internal or-

gans by injections of Koch's lymph, a continued article from the pen of Dr. Kammerer on the experience with the same remedy in Vienna, also von Gossler's regulations to prevent the spread of tuberculosis. In addition there is a *résumé* of other publications. It cannot be said of modern science, especially the German, that its light is under a bushel. The establishment of a new journal to exploit a discovery only a few weeks old, argues most praiseworthy activity.

CORRECTION.—The annual meeting of the Medical Society of the Missouri Valley will convene at Omaha, Neb., March 19 instead of March 17, as previously announced in *THE JOURNAL*.

A HEALTHFUL SUBTROPICAL CLIMATE.—The English journals evince a feeling of exultation in speaking of the comparatively salubrious sections of the British sphere of influence, in east Central Africa, some parts of which lie directly under the equator. In contrast with some more southerly points occupied by the Germans, this English territory, even on the coast line, has a climate that is both more endurable to white colonists and more healthful. Even in the hot season they claim that it is cooler than it is five degrees farther south.

HARPER HOSPITAL, DETROIT.—Dr. Heneage Gibbs, Professor of Pathology at the University of Michigan, has been appointed consulting pathologist to the Harper Hospital, Detroit. This appointment will enable Dr. Gibbs to cooperate freely with his colleague, Dr. Shurly, in their joint researches concerning the nature and treatment of pulmonary tuberculosis, which are about to be carried out on a larger scale than heretofore.

ACCIDENT TO VON BERGMANN.—An injury sustained by Professor von Bergmann in the course of professional duty, has compelled him to take a temporary leave of absence from all official work. The wound involved one of the fingers of the right hand, and at first was not considered to be serious, but it has rendered repeated slight operations necessary. The professor has been and is still confined to his room, and will probably have to carry his hand in a sling for some time to come.

PATIENTS undergoing the "lymph" treatment at Chicago Presbyterian Hospital show no very decided improvement up to the present time.

MEDICAL ITEMS.

ACCIDENT TO PROF. BERGMANN.—It is said that Prof. Bergmann has had the second finger of his right hand amputated on account of threatened blood poisoning from an operation on a lupus patient who was undergoing the Koch treatment.

THE MINNESOTA PRACTICE ACT.—The operation of the Minnesota Medical Practice Act has reduced the ratio of physicians, from one to six hundred and fifty, to one in twelve hundred and fifty. During the past three years two hundred and five candidates presented themselves for examination, seventy-seven of whom were rejected.

THE TRICKS OF NEW ORLEANS MILKMEN.—It is said to be a common practice in New Orleans for milkmen to renew the creamy appearance of skimmed and watered milk by the addition of condensed milk from cans. If such is the case its importance at once demands the attention of the health authorities, or else all New Orleans infants should be denied the preparation.

UNIQUE IRISH DECISION.—The *Boston Medical and Surgical Journal* repeats from foreign sources as a true story, a remarkable verdict rendered two or three weeks ago in Ireland, growing out of the railroad calamity that took place near Armagh. The plaintiff, a woman who had been injured, sued first for damages to herself—she had been bruised and shaken and caused to come to premature childbirth, with much risk, anxiety and suffering—and the jury gave her £800. Next she sued on behalf of her baby, which has been from the time of premature delivery puny and deformed, and not expected long to survive. The jury awarded the infant nothing, for the reasons that the company never sold a fare to include that baby, and in fact the company had no knowledge that the baby was on the train. Therefore according to law no responsibility attached to the company in respect of that surreptitious passenger.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION, was organized on the 22d of January, 1891, at the Academy of Medicine, No. 17 West 43d St., New York, by the adoption of a Constitution and By-Laws, and the election of the following officers: President, G. Betton Massey, M.D., Philadelphia; Vice-Presidents, William James Morton, M.D., and Augustin H. Goelet,

M.D., New York; Secretary, William H. Walling, M.D., Philadelphia; Treasurer, Geo. H. Rohé, M.D., Baltimore.

Executive Council.—Horatio R. Bigelow, M.D., Philadelphia; Franklin H. Martin, M.D., Chicago; W. F. Hutchinson, M.D., Providence, R. I.; Frederic Peterson, M.D., New York; and Chauncey D. Palmer, M.D., Cincinnati, O.

The object of the Association, as stated in Article Second of the Constitution is, "The cultivation and promotion of knowledge in whatever relates to the application of electricity in medicine and surgery." The Association starts with a strong and vigorous membership, and has every prospect of a most useful and successful career. The next meeting will be held in Philadelphia, in September, of this year. Wm. H. Walling, M.D., Secretary, 2005 Arch St., Philadelphia, Pa.

CHLORAL HYDRATE IN EPILEPTIFORM CONVULSIONS.—An Irish physician, Dr. W. Ashley Cummins, reports a case of almost continuous epileptiform convulsions opposing alike the influence of nitrite of amyl, hyoscyamine, potassium bromide, chloroform, nitro-glycerine and bichloride of soda, but which finally succumbed to enemata of chloral hydrate, gr. xxx, every three hours.

DR. N. H. KIMBALL, a physician well known in Southern Michigan, died at his home at Adrian, Mich., recently.

THE ART OF CATCHING COLD.—The *Provincial Medical Journal* has an article in a late issue entitled: "The Art of Catching Cold; by a Professional Failure." Truly such a heading should not fail of attracting a generous number of readers.

THE KOCH TREATMENT.—General medical literature (periodical) still teems with papers, lectures, and reports of the Koch treatment; although it is believed that the first enthusiasm is subsiding to a more conservative estimation of the cases receiving attention in the home hospitals. The true merits and proper application of Prof. Koch's discovery, are yet to be determined.

THE TIME TO RECORD DAILY TEMPERATURE.—Prof. Da Costa considers that in important cases the daily temperature should be recorded close to the hours of 7 A.M. and 7 P.M. Where only one observation can be taken, it should come near the evening hour.

TOPICS OF THE WEEK.

THE MORPHOLOGY, CULTIVATION AND TOXIC PRODUCTS OF THE TUBERCLE BACILLUS.

At the meeting of the Pathological Society of London, held February 3, 1891, Dr. Edgar M. Crookshank presented a paper of remarkable value upon the above subjects. He gave a series of demonstrations of the morphological varieties of the tubercle bacilli, comparing those in the tuberculosis of various animals, such as the horse, pig and cat; and of birds, such as the fowl, guinea fowl, pheasant and ostrich. It is found that in these, minute morphological differences can be discerned, showing that, within certain limits, the morphology of the bacillus varies with its environments, and that certain modifications are dependent upon methods of culture. He enters quite fully into a description of his methods, and then deals at length with the toxic products, giving in particular the results of his own investigations.

The London *Lancet*, commenting upon the paper of Dr. Crookshank, gives a brief outline of the conclusions to be derived therefrom, and from the discussions which followed its presentation, in the following words:

It is evident that, although chemists, bacteriologists, and pathologists are working to a common end, each emphasizes somewhat different points. On the one hand, we have the bacteriologists taking up rather the botanical aspect, cultivating the tubercle bacillus in different media, and retarding or increasing the rate of growth and development by the addition of certain substances. They, in fact, study the organism as a saprophyte, and are contributing most remarkable facts to our knowledge of the history of the organism outside the body. When, however, on the other hand, the chemist comes to consider the action of the organism as a parasite, the facts obtained by the botanist are for the moment of comparatively little value, as Dr. Sidney Martin indicated. All the knowledge that has yet been obtained in connection with the action of the organism on the animal economy points to the fact that they do not act any in way except through their poisonous products. These products are derived entirely from the breaking down of albuminoid substances. It may be, of course, that some of them are only one or two removes from the higher albumens; whilst others may be looked upon as the later products of the decomposition of this same material by special organisms. It is evident therefore that the specific toxic functions of a parasitic organism can only be brought into full play when it is placed in a medium that contains sufficient albuminoid material on which the organism may act to produce the specific material. Of course, it may be objected to Dr. Martin's statement that alkali albumen (to which he would add the special salts required) is probably one of the best nutrient media for the growth of the tubercle bacillus in all its strength, and that alkali albumen does not occur as such in the body, just as fibrin does not; but to this may be answered that, although fibrin does not occur as such, the constant elements of which it is composed are undoubtedly present, and that the organism has therefore only a little more or a little less work to do to obtain the same results.

To the physician, however, who has to deal with disease in both its etiological and pathological aspects, something more than either the chemist or the bacteriologist tells him is necessary. He has not only to study the conditions under which the organism is developed outside the body, the method of invasion of the tissues by the tubercle bacillus, the local changes to which it gives rise, and the general or constitutional symptoms that result, but he has also, if possible, to trace the phylogenetic relations of the organism to see how its specific activity may be modified, and to apply the results of the experience already gained to the improvements of methods of treatment, whether by inoculation or by other means; in fact, nothing must escape his notice, and no means of increasing his knowledge of any phase of the life of the organisms that produce disease can be neglected or cast aside as unimportant. The tubercle bacillus within the next year or two will receive more attention than any other of the microorganisms. It will be studied by competent and incompetent observers; the most contradictory results will be obtained; we shall be told that the tubercle bacillus forms enzymes, albumoses, tox-albumens and ptomaines. It will be argued that its growth takes place most luxuriantly under certain conditions, and that certain other conditions are absolutely inconsistent with any growth at all. Let all such very positive statements be taken with reserve, for it is becoming evident that if care is taken to make a transition by sufficiently easy stages, tubercle bacilli, like many other organisms, may be cultivated under very different conditions as regards soil, temperature, etc., and that consequently the resulting products are equally varied. Thanks to the younger workers in physiological chemistry in this country, a new school is gradually being formed, and it is evident that much more accurate and valuable data than we have hitherto possessed are being gradually accumulated. We may, in fact, look forward to a comparatively new development of bacteriological science as coming within the range of practical medicine—a development that, in its bearings on medical practice, must have most far-reaching results.

FACTA NON VERBA.

We have received communications from several quarters pointing out what is, indeed, only too apparent—that the scientific and public interest in the remedy for tuberculosis introduced by Dr. Koch is being utilized pretty extensively by many who should know better, for purposes and by methods which cannot easily be differentiated from those of public and personal advertisement. This is obviously true, both here and abroad. Some allowance must, of course, be made for the exceptional nature of the circumstances, and the intense public interest aroused all over the world by the pronouncement of this distinguished observer of a probable cure for a disease which has so long been an almost irremediable scourge of the human race, and the far-reaching vista which this announcement opened up in many directions. It is more than time, however, that means should be taken to abate the proceedings referred to, and the good sense of physicians throughout the world will lead

them to refer to the ordinary rules regulating conduct in the discussion of remedies *sub judice*, and the avoidance of anything savoring of personal advertisement. It is sufficiently clear that much time must elapse, with rigorous observation during that lengthened period, before conclusions can be safely drawn either as to the sphere of utility or the complicated perils of the process. Meantime the professional tribunals—the societies, lecture-rooms and journals—of the profession are those which should be sought, rather than the public verdict on a subject on which only the technically skilled and educated can form a judgment. The excitement which so momentous an issue could not fail to raise has led to much premature proceeding, and until a mature judgment can be attained, silent work will show to advantage over hasty public utterance.—*British Medical Journal*.

PROFESSORS VIRCHOW AND HELMHOLTZ.

Our Berlin correspondent writes: Professor Rudolf Virchow's 70th birthday will be celebrated with due honors on October 13 of this year. Professor Waldeyer, Drs. W. Reiss, Bartels, Langerhaus, Ad. Meyer, and Professor B. Fraenkel have issued a circular inviting friends and admirers of the great pathological anatomist to subscribe to a gift of honor, which is to take the shape of a golden portrait medal (about 19 centimeters in diameter). We understand that a committee is in course of formation in London under the presidency of Sir James Paget, to enable his English admirers to participate in the compliment. Professor R. von Helmholtz's 70th birthday will also fall this year on August 30. and will, no doubt, be celebrated with the honors so eminently his due.—*British Medical Journal*.

A LEPROUS VILLAGE.

M. Boinet states that leprosy is rare in the mountainous parts of Tonquin, but frequent in the delta, and that the lepers live in villages situated in the environs of some large populous centres. The most curious of these is situated two kilometres from the French concession of Hanoi, the inhabitants numbering 400, almost one-half of whom are affected with leprosy, the remainder being composed of infirm persons and beggars. According to the statements of the chiefs of the village, leprosy is often transmitted hereditarily. Eighty to ninety per cent. of the children of lepers contract the disease, which usually appears for the first time about the eleventh year, and rarely develops after the age of 40, exceptionally before the age of three years. Boinet traced heredity only in 15 out of 80 observations; but he recognizes that these figures are not sufficient, for lepers who come from the neighboring villages do not readily acknowledge heredity, and reliable information is impossible. Anaesthetic leprosy is more often hereditary than tubercular leprosy. Boinet concludes that heredity is of slight importance in the development of leprosy, many cases called hereditary being only examples of "heredo-contagion" or simple contagion, the proof of which lies in the late development of leprosy in the children of lepers and in their relative immunity when removed in time

from their parents. With regard to this, Boinet states that certain lepers whose resources permit them to do so send their children from the lazaretto as soon as they are weaned, to prevent their contracting leprosy. The lepers of Hanoi doubt the contagiousness of leprosy, and the chiefs of the village, who are interested in denying it, affirm that there has not been a single case of contagion. Boinet, however, in 80 observations made by him, found the possibility of contagion in 51, and in 5 of these contagion appeared clear. Boinet gives particulars regarding cultivations of the bacillus lepræ on agar agar. If his experiments are accurate, it would appear that the bacillus lepræ develops in stagnant water and in rivers, which he thinks would explain the fact that there are seen at Tonquin leprous foci along the course of small rivulets.—*Lancet*.

THE SIEGE OF MAYENCE.

The *Archives of Military Medicine* recently gave an interesting account of the medical history of this siege in 1793. The medical officer in charge of the hospital says: "On the 11th of April there was a dreadful cannonade. Amongst the number brought us with enormous wounds—and the number was not inconsiderable in less than an hour, eight for various amputations—was a little volunteer with great courage, although suffering terribly. I ordered that he should be undressed while I went round the ward to glance at the various operations which the assistant surgeons were performing. Returning to him with Citizen Rivière, who was to perform the operation, we perceived an enormous lower limb, enormous from the unusual amount of swelling. Manipulating the limb, we came across a hard swelling, which we took to be caused by a grapeshot ball lodged in the limb. Our astonishment was great when we found that an incision of five or six fingers' breadth was insufficient to extract this enormous foreign body, which, on being finally got out, turned out to be a Prussian ball weighing no less than thirteen pounds! How could a mass of this size have just the amount of force necessary to lodge in a thigh and not pass through it! This problem I leave to natural philosophers, but I admit it to be almost necessary to have seen such things to believe them. Of course there was nothing for it but to operate on this poor fellow or leave him to certain death; we therefore amputated high up. When we had finished he asked if it was done, and on being told that it was, he cried out loudly, 'Long live the nation!' Anaesthetics had not then been seen, it must be remembered. On another occasion the firing of a mine caused a tremendous explosion, which shook the hospital building terribly. At that moment I was engaged in amputating the limb of a soldier. As I was saving the bone amidst the general confusion caused by the first shock, a second occurred which brought down the whole of a glass skylight over the patient and myself. Not knowing whence all the glass came, I asked those standing around what was the matter. The patient overheard me, and said, 'Go on, don't alarm yourself, you will see plenty of this kind of thing.' When I had finished the operation he cried, 'Vive la République!'"—Paris Correspondence, *Lancet*.

SOCIETY PROCEEDINGS.

St. Louis Medical Society.

Stated Meeting, Saturday Evening, Feb. 7, 1891.

THE PRESIDENT, L. BREMER, M.D., IN THE CHAIR.

VESICO-VAGINAL FISTULÆ.

DR. BOND said: The subject of vesico-vaginal fistulæ is a subject that has not lately received much attention by discussion or by the pen, and it is an affection which to the sufferer is almost intolerable. The condition of a woman with water constantly escaping from the bladder through the vagina occasions a degree of discomfort almost inexpressible; considering the great difficulty that in many cases is encountered in relieving this condition, it is important that those gentlemen who attempt to operate for the cure of vesico-vaginal fistulæ should have a clear appreciation of special conditions that prohibit or prevent the best results.

During the International Congress that met at Washington City special attention was directed to the influence of constricting bands in the vagina in compromising successful results, by a very elaborate paper read by Dr. N. Bozeman, of New York City, on this subject. In it he emphasized the necessity of dilatation by means of sponges inclosed in rubber bags and introduced into the vagina, and also the necessity of dividing any cicatricial bands that distorted the parts and prevented ready access to the fistula on which he desired to operate; or that might produce undue tension upon the sutures after they were placed.

An illustration of the value of those instructions was found in the case of a lady commended to him, who for several years had suffered from a vesico-vaginal fistula resulting from a protracted labor. She had already been operated upon, but unsuccessfully. The fistula was an inch and a half in length across the vagina, high up in the vagina, close to the cervix, and considerably removed from the arch of the pubes. The finger being introduced discovered a cicatricial band, the sequel of a posterior laceration of the cervix. In consequence of the vaginitis, cellulitis and pelvic peritonitis that occurred a firm union had taken place between the posterior portion of the cervix and the posterior fornix, and by the same process the cervix was drawn high up in the vagina, towards the sacrum, in which the uterosacral ligaments were also implicated. It would have been utterly impossible to make a satisfactory operation had not the constricting, cicatricial band been first divided. On the 28th of December this band was divided, the cervix thoroughly liberated, and several cicatricial bands in the lower portion of the vagina, that had a tendency to constrict the vagina laterally, were divided,

and by that means more space was gained. The amount of bleeding was so great that it obscured the field of operation and prevented the completion of the operation at the time; this was postponed only till the bleeding had entirely ceased, and before the healing process had been instituted to any great extent, or before a cicatrix had formed. Accordingly, three days after the preliminary operation, the operation was continued, the patient being placed on her back. A vulsellum was engaged in the anterior lip of the cervix and the fistulous opening readily brought down near the orifice of the vagina; in this position of the part no trouble whatever was experienced in performing the operation—denuding the margins of the fistula and passing the sutures. Eight or ten silk sutures, antiseptically prepared in a 2 per cent. solution of carbolic acid, were inserted. The patient was then kept upon her back for more than twenty days, with a soft rubber catheter constantly in the bladder, but frequently changed, one catheter not permitted to remain in the bladder more than four hours. Though the patient was an exceedingly nervous, sensitive individual, she yet bore the presence of the catheters very well. About a week after the operation was performed, a slight leakage through the vagina was obtained. The stitches were not removed, however, until the tenth day, when the union was almost complete, so complete that the point through which the water escaped could not be detected; and though assured that contraction would continue and would result in the entire arrest of the escape of water, prudence dictated the continuance of the use of the catheters that the bladder might not be distended and thus retard union. The result was all that could be desired, the woman recovering entirely from the fistula.

The secret of the success of J. Marion Sims, one of the pioneers in this department of surgery, was attributed to the fact that he used silver wire sutures. At that time the agency of sepsis in vitiating operative results was not distinctly recognized; nor was it understood why success seemed to follow the use of silver wire sutures, while failures attended operations in which the silk or any other form of suture was employed. Now it is well established that when silk sutures, antiseptically prepared, are used, the result is just as good or better than after the use of silver wire; with the additional advantage of being more easily manipulated.

The speaker stated he desired to call especial attention to the importance of a thorough division of the cicatricial bands. In the case under consideration it would have been utterly impossible to approximate the margins of the fistulous opening with security without first dividing the cicatricial bands, because the tension induced by the operation would, of necessity, be thereby super-

added to that already existing in the anterior vaginal wall. This omission was unquestionably the reason of the failure of the operation previously performed, which became apparent on the second day thereafter, the sutures having cut through the tissues.

DR. A. H. MEISENBACH said that the non-union in such cases as have been referred to by Dr. Bond may occur from the factors assigned, or it may be due to the fact that the fistula may be in such a situation that it is not readily accessible through the vagina. The speaker said when in Baden he had an opportunity of seeing a patient upon whom Trendelburg had operated for vesico-vaginal fistula. He placed the patient in the position for section of the bladder, the so-called Trendelburg position, viz., by elevating the hips very high and letting the head hang down on an inclined plane; by this means the weight of the intestines gravitates from the bladder, and thus very materially enlarges the space by reason of the traction made by the abdominal viscera on the peritoneum. In this position he cuts down on the bladder and has had great success by using this position in operations for stone. Having a patient suffering from vesico-vaginal fistula, who was in such a state that it was impossible to reach it satisfactorily through the vagina, he hit upon this very novel position of opening the bladder, placing the sutures and reuniting the wound on the vesical surfaces, and then having introduced a catheter the operation was complete, and a perfect result obtained, as he saw the patient ten or fourteen days after. Trendelburg tested the bladder for continuity by injecting from four to six ounces of water, and it held the water perfectly. Silk sutures were used and tied in the bladder, the supra-pubic method being adopted.

In operations where very firm apposition of the parts is desired, catgut is not always to be trusted for the reason that great force must be exerted to bring the parts together; and besides on account of its absorbent qualities, one can be sure that he has tied the suture tight enough, and that in a little time the suture may not absorb moisture, and, in consequence of the loosening of the knot, the suture becomes loosened. It is very difficult to handle wire sutures, from the fact that correct apposition of the edges of the wound can not with confidence be obtained with it; the use of a certain amount of force in applying it often produces laceration of the tissue; failures are, therefore, often due, not to the wire, but to the lacerated tissue. It is very hard to determine just exactly how tight to apply the wires.

DR. WILLIAM JOHNSTON: Dr. Bond says that Sims was the pioneer in operations on vesico-vaginal fistulae. Dr. Jobert, of Paris, operated for this affection in 1837; also Sir James Young Simpson later adopted it, and Dr. Bozeman still later operated, but not by the same procedure as Dr. Sims.

DR. BOND: It is a fact, sir, that to Dr. Sims is due the just credit for popularizing the operation for vesico-vaginal fistulae. He first operated upon Negro women in the South, and, after achieving numerous successes, he went to New York and there taught the physicians his method of curing vesico-vaginal fistulae. He afterwards went to Paris and successfully operated on Empress Eugenie after European surgeons had failed, and thus acquired a world-wide reputation in consequence of his success.

As to the position that Dr. Meisenbach mentions in regard to the operation that he refers to, one insuperable objection to the method of procedure of Trendelburg would be the fact of the impossibility of removal of the sutures, for these, if allowed to remain in the bladder, would constitute nuclei for the aggregation of the salts of the urine, and thus stones would be generated unless the supra-pubic opening was left open until the sutures could with safety be removed. What is the method of getting rid of the sutures?

DR. MEISENBACH: The suggestion of leaving the supra-pubic opening until the sutures could be removed would be a procedure perfectly feasible. Only about ten days are required to secure a firm union if the operation has been successful, and as regards the formation of calculi, even should they generate their removal by modern devices of surgical art is very readily accomplished.

A SPECIMEN.

DR. BLICKHAHN said: The specimen I present for inspection was from a patient of Dr. Pohlman's who was kind enough to furnish me the clinical facts. Dr. Edward Evert, who made the autopsy, has kindly detailed the post-mortem appearances. This heart and its aorta belonged to a man, aged 30, a blacksmith by occupation. He had always been in good health, with the exception of a cough which occurred several years ago, due to bronchitis, the result supposedly of the inhalation of dust and smoke while following his occupation; the cough while it continued was quite severe, but disappeared completely under treatment for the bronchitis. On January 31, the patient worked as usual, and in the evening went to the Union Depot to meet a relative. He drank several glasses of beer, appeared in good health and spirits, and retired 11 P.M. Early Sunday morning, February 1, he awoke suddenly with great pain and dyspnoea. Dr. Pohlman was sent for and on his arrival found the patient cyanosed and suffering from great dyspnoea, cold extremities; no radial or temporal pulse, and only a slight undulation of the carotids. The patient's condition forbade much physical exploration, and no accurate diagnosis of the difficulty was attempted, the attending physician believing death about to ensue and so informed his friends. He,

however, injected ether and whisky subcutaneously, remained with the patient about an hour and then left, expecting, on his return some hours later, to find his patient a corpse. By afternoon, however, the condition of the patient was greatly improved; the pulse was perceptible, the cyanosis less, and respiration less embarrassed, etc. His improvement was steady, and the patient in a short time insisted he was well, and wanted to go to work a day or so later. The doctor insisted he had not satisfactorily diagnosed his malady, the symptoms being still very grave, and he insisted on the patient remaining in bed, etc. The third day the patient got up and walked about the room, feeling, as he said, perfectly well. He awoke in the night, however, of Tuesday or Wednesday, with great dyspnoea and cyanosis. Dr. Pohlman was again summoned, but the patient died before he arrived.

The post-mortem revealed nothing of special import until the pericardium was opened. The heart sac was bluish in color, and when opened it was found filled by large coagula; through this the heart was reached, and lifted out; the heart was replaced and examined from the outside. There was dilatation of the aorta; and inside the sac just after it leaves the heart, there was observed an aneurism and a small irregular opening of the size of a small pin's head, from which the hæmorrhage had taken place. The heart otherwise was found in a healthy state.

DR. BOND inquired: Can Dr. Blickhahn give the history of the case as to the possibility of syphilis on his part or that of his parents.

DR. BLICKHAHN replied: From hearsay I learned there was no syphilitic history in the case, though the gentlemen who saw the case earlier, and made the post-mortem, were of the opinion that there might have been syphilis.

DR. BREMER: The question of syphilis is always the one that is uppermost in the mind of an inquirer after truth in such cases. He believed that there is almost no case of diverticulum of the heart, as it was formerly called—or aneurism, which could not be traced to syphilis—not a well authenticated case. In most cases syphilis certainly is the cause, either hereditary or acquired. He had known a case of hereditary syphilis in which the individual died from aneurism of the aorta; that is the only case he had met with in his own practice.

DR. BROOME said that some cases of aneurism are met with, which clearly are not due to syphilis, nor to any known cause. He had now under observation a case in which there is positively no history of syphilis, though the etiology is obscure. The aneurism is from the arch of the aorta and is of enormous size, larger than any heretofore recorded. Subjective symptoms had been manifest for a year and a half; but a palpable tumor appeared only about one year ago. Its

increase in size has been so rapid and great, that pressure on the thoracic walls has occasioned absorption of the entire anterior halves of six ribs, a portion of the sternum and also the sterno-clavicular articulation; the sternal extremity of the clavicle being pushed up against the thyroid cartilage. The patient now complains but little of pain, but previous to the escape of the tumor beyond the contour of the ribs, his suffering was very great in consequence of mechanical pressure of the aneurismal tumor exerted within the thoracic cavity. The doctor endeavored to introduce a silver wire into the sac, but owing to the presence of septa within its cavity, the resistance was greater than could be overcome without exercising undue force. Ordinary piano wire is probably the best, of which from ten to twenty feet might be introduced so large is the sac. Macewen claims to have returned several patients to hard work, apparently completely cured of their aneurismal tumors by his method of treatment. This consists of the introduction and retention of a long needle into the sac just deep enough to strike the opposite wall. The needle is thus practically suspended in the sac, and in consequence of the motion of the blood current being thereby rendered by it tumultuous and disseminated, irritation is set up in the vessel wall, and leucocytes is induced. This process continuing, superimposed accretions of fibrine generated, and a partial thrombosis progresses until complete occlusion of the sac occurs. The method suggested is simple, besides devoid of danger, and appears to be full of promise.

DR. CADWALLADER stated that he had in his possession a specimen taken from a patient who gave a rheumatic history of several years' duration, with a marked disturbance of the heart. He discovered, in making a post-mortem, an aneurism or diverticulum on the superior surface of the left ventricle as large as a walnut. The patient died from some other trouble unconnected with it.

DR. BREMER: No poison circulates in the human body, nor is there any factor that tells to such a degree and with such an intensity upon the vessels, as does syphilis; and next to syphilis comes alcohol. The syphilitic lesion is very frequently confined to the muscular layer of the vessels. The muscular layer is infiltrated and, in consequence, there is a shrinkage of the muscle fibres; there being no resisting power, no elasticity, the blood pressure will have the effect of pushing out and dilating the connective tissue membranes, which have been formed in place of the muscular membrane. In that way miliary aneurisms, when they occur in the brain, prove very frequently fatal. In the same way the larger aneurisms are formed. It is true that traumas are sometimes the cause of aneurisms, traumas which may not be noticed; but the so-called idiopathic aneurisms are probably all due

to syphilitic infection, which, in a great many instances, is a matter unknown to the patients themselves.

DR. BOND: Did I understand you to say that the retrograde metamorphosis incident to syphilis was represented by the conversion of the muscular element into connective tissue?

DR. BREMER: The muscular elements disappear at the site of the lesion, and very frequently in the muscular coat; such is the case in gummata, for instance. The gummata afterwards breaks down to some extent, then connective tissue is formed; and the blood current, the *vis a tergo*, dilates the connective tissue which has been formed. When the connective tissue is in a fresh state—an embryonic state—in a fibro-plastic state—it is very soft, and can be pushed out and a pouch very easily formed.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR REGULAR CORRESPONDENT.)

Lectures on Nursing—The Electric Light and Human Ailments—The Treatment of Burns—Coöperation and the Nursing Profession—Sir Richard Quain—Diverticulum of the Esophagus—The Midwives' Registration Bill—Miscellaneous Items.

Several of the National Health Society's lecturers are now giving lectures on nursing in the provinces—at Horstead for Lady Berkbeck, at Dedbury for Lady Henry Somerset, and also at Norwich. The lectures are attended by hundreds of ladies. The "homely talks" which follow the set discourses are especially intended for the working women of the districts, and many of the cottage wives and mothers show an earnest desire to be better informed on the important subject of nursing their sick.

The electric light is stated to exercise a most soothing influence over human ailments. According to a medical man, by reflecting the rays of an incandescent lamp upon the sufferer, acute pain is relieved in a few moments. For example, a headache will yield to the treatment in from ten to fifteen seconds, a strong concentration of light on the seat of a malady in any other part of the body will effect a temporary cure in five minutes, and even consumptive patients find their cough quieted and the breathing easier. The light is directed to the affected region through a funnel-shaped apparatus. The treatment is stated to have been tried in Moscow.

In one of the large London hospitals the following method of treatment for burns has been tried with success: The burned surface is first carefully washed with a 2 or 3 per cent. solution of carbolic acid; or with a 3 to 1,000 solution of

salicylic acid. The blisters are then opened and the entire surface covered with subnitrate of bismuth finely powdered, and over this a layer of cotton wool. This dressing is to be renewed as soon as it becomes at all moistened by discharges from the wound. If the burn is very extensive, an ointment of bismuth is substituted for the dry powder. With this dressing cicatrization is found to be much more rapid, and the suffering of the patient much more quickly relieved than is the case with any other form of treatment. It is found that in spite of the large quantities of subnitrate of bismuth which are employed in this manner, up to the present no case of "bismuth poisoning" following its use has occurred.

At once pathetic and pleasing was the spectacle presented at King's College Hospital, on the occasion of the patients' annual Christmas-tree entertainment, the cost of which was borne almost entirely by the students attending the institution. By the judicious use of artistic hangings, Chinese lanterns, evergreens and flowers, the wards were made to look exceedingly bright and pretty. The patients able to leave their beds were accommodated in the area of the great hall, while those less fortunate were provided with couches in the three surrounding galleries, so that they might share in the enjoyment derivable from an entertainment to which several members of the dramatic profession contributed. Many of the visitors inspected the wards containing patients who had been inoculated with Koch's lymph, which in certain tubercular diseases has been markedly beneficial.

Coöperation is now extended to the nursing profession. Some nurses have combined on a plan which will enable them to receive their own earnings in full, subject to a slight deduction for working expenses. That they are good nurses is guaranteed by the fact that Miss Hicks, the late matron of the Ormond Street Hospital, is their lady Superintendent. It is said that nurses who earn two guineas a week sometimes receive for themselves no more than £20 a year.

Sir Richard Quain, the new medical baronet, is one of the members of the medical profession who is most popular outside his profession. For many years he has been *persona grata* in literary, artistic and official circles, and has numbered among his friends or acquaintances most of the great artists and men of letters of the last two generations. For in spite of his iron-gray hair, active habits and untiring energy in the discharge both of his professional and social obligations, Dr. Richard Quain must have already exceeded the Psalmist's span. At Mallow, Sir Richard first saw the light, and his first introduction to medical practice took place in Limerick. He soon found his way to London and quickly began to make his mark, being for some years the right-hand man of the late Dr. C. J. B. Williams, and

then one of the physicians appointed at the institution of the Hospital for Consumptives at Brompton. For many years now he has possessed one of the leading consulting practices in London. His *magnum opus* is the famous "Dictionary of Medicine," which took some ten or twelve years to prepare, and in the production of which he obtained the assistance of most of the best known medical writers.

At the Pathological Society's meeting, an interesting and rare specimen of diverticulum of the œsophagus, taken from the body of a man aged 49, was shown. The patient, who was much emaciated, and on whom gastrostomy was performed in July, 1890, had given a history of dysphagia extending over a period of ten years. Death occurred two days after the completion of the operation, from pneumonia and exhaustion. The autopsy showed a diverticulum of the back part of the œsophagus 4 inches in depth from the level of the arytenoid cartilages, $3\frac{1}{2}$ inches in breadth and $2\frac{1}{2}$ inches in thickness, with a mouth 1 inch in diameter and a capacity of 6 ozs. The walls of the sac were lined throughout with mucous membrane, and were of the same thickness as those of the œsophagus. When the enlargement was filled with fluid the opening in the œsophagus was firmly closed by the pressure of the distended sac. There was no malignant growth present. The absence of muscular tissue except at the mouth of the sac, supported the contention that posterior diverticula were primarily due to effects of pressure, and not to congenital defect, as held by some authorities.

Dr. G. N. Pitt has published some notes on the post-mortem appearances in chronic alcoholism. *Prima facie*, the chronic dyspepsia and irregular habits of these patients would lead one to expect that their mortality from phthisis would be high. The Registrar General's Reports, however, showed that the mortality from phthisis of publicans and others whose occupations exposed them to special temptations to drink, was rather below than above the average. But acute tuberculosis and pneumonia were very prone to occur in such patients, and the tuberculous nature of the disease might often be overlooked during life. Dr. Pitt concludes that tubercular lesions in the lung in alcoholic subjects generally assume a fibroid form, and that tubercular lesions are not infrequently associated with alcoholic neuritis and hepatic cirrhosis.

The Manchester Medico-Ethical Association, numbering 150 medical men practicing in Lancashire and Cheshire, have taken alarm at the "Midwives' Registration Bill" now before Parliament, and are organizing an opposition to that measure. Sir Walter Foster, M.D., has withdrawn his name from the back of the Bill, and it is stated that others interested in its promotion are persons "having little experience of family

practice." It is also alleged that the General Medical Council has declined to support the Bill, and that the Royal College of Physicians has also repudiated it. In the view of the Association, the measure is a plan for avoiding the extended educational course necessary to qualify any one to treat the diseases of women and children, and that the Bill is to be used as a "back door entrance" for women to the medical profession.

"The Coming Race" is the name appropriated to a bazaar and fancy fête at the Royal Albert Hall, in aid of the West End Hospital and School of Massage and Electricity. The arrangements include a festival dinner to which ladies will be admitted. The fête will be opened on March 4 for four days.

The Swiss Federal diploma which gives the right of practice has been granted to Dr. Holland, of St. Moritz. This act on the part of the Swiss authorities ends a long controversy.

Sir George Humphry, of Cambridge, the new medical knight, has been invited to a congratulatory dinner by the Cambridge Medical Graduates' Club. Among the guests invited is the Vice Chancellor of the University of Cambridge.

G. O. M.

NECROLOGY.

DR. WILLIAM J. McCURE, University of Maryland School of Medicine, Baltimore, (1866), Health officer of York, Pa., and member of the Legislature from Adams County in 1878, died January 24, aged 52 years.

DR. N. M. BEMIS, of Fairbault, Minn., died January 29th, aged 69 years. He was a native of Massachusetts, and graduated at Woodstock, 48 years ago. He moved with his family to Minnesota in 1855 where he has been in active practice up to a few weeks before his death. He was father of Dr. J. G. Bemis of Chicago.

DR. PIERSON RECTOR, President of the Board of Pension Examiners, Jersey City, N. J., died in that city, January 22, of pyæmia, due to a surgical accident while in attendance upon a charity patient. He was born in Duanesburg, N. Y., 52 years ago and was educated in the Racine College and the Albany Medical College. During the war he was Assistant Surgeon 115th Regiment N. Y. Volunteer Infantry, but was transferred with the same rank in February, 1864, to the 127th Reg't. Vol. Inf't., of the same State, receiving his discharge December 14, 1864.

MEDICAL DIRECTOR JONATHAN DICKINSON MILLER, U. S. Navy, (retired) died January 29, at his home, Mount Airy, near Philadelphia. He was a native of New York, was commissioned as-

sistant surgeon December 6, 1836, and assigned to the North Carolina, in the Pacific squadron. He was passed in 1841 and assigned to the Naval Hospital, Brooklyn. In 1843 he was ordered to the brig Perry of the East India squadron. He was again promoted in 1847 and ordered to the Gulf of Mexico. He served continuously till November 6, 1872, when he was placed upon the retired list.

DR. CHARLES C. LANCASTER, an alumnus of the Medical College of Virginia, class of 1884, died February 3, at Knoxville, Tenn. He was poisoned by a gangrenous wound, which he had surgically treated, through an abrasion under his finger nail.

DR. ALVIN TALCOTT, the most distinguished although not quite the oldest surviving citizen of Guilford, Conn., died there Jan. 17. He was born in Vernon, Conn., Aug. 17, 1804. He was graduated at Yale in 1824, and from the Yale Medical School in 1831. He began to practice in Vernon as successor to Dr. Dow. Dr. Talcott had taught in Guilford during his college course, and there married Miss Olive Chittenden, on March 7, 1831. He settled in Guilford about 1840, and became a successful practitioner. He began early to search out the genealogy of the Guilford families. He wrote out in manuscript the full family lists, as far as obtainable, of all Guilford's forty original settlers of 250 years ago. This notable genealogical work is embodied in an imperial quarto containing over 25,000 individual names. It is understood that it is bequeathed to the New Haven Historical Society. Dr. Talcott was many years secretary and treasurer of the Board of Trustees of Guilford Institute, himself an active and ready classical scholar. For some years he held the office of Town Register. He had three children—one son and two daughters—who died at an early age, Mrs. Talcott having passed away December 8, 1882.

DR. NATHANIEL R. BOUTELLE, Jefferson Medical College, 1847, died at his home in Waterville, Me., December 21, of paralysis. Besides being an active practitioner, he was a bank president, and an enthusiastic stock breeder.

BOOK REVIEWS.

A TEXT-BOOK OF COMPARATIVE PHYSIOLOGY FOR STUDENTS AND PRACTITIONERS OF COMPARATIVE (veterinary) MEDICINE. By WESLEY MIMMS, M.D., D.V.S., etc., Professor of Physiology McGill University. With 476 Illustrations. New York: Appleton & Company, 1890. Pp. 636. \$3.00.

This compact and thoroughly well arranged

volume will be a desirable addition to any library. Though written for veterinarians it is based of necessity on human physiology, and the recent contributions to this department of knowledge are clearly set forth. The author's style is terse and entertaining, carrying one along agreeably over what otherwise would be dry, statistical and unentertaining. The illustrations, though rarely original, are well selected, and graphic demonstrative methods are emphasized.

THE EXTRA PHARMACOPEIA.—With the additions introduced into the British Pharmacopœia, 1885. By WILLIAM MARTINDALE, F.S.C., late Examiner of the Pharmaceutical Society and late Teacher of Pharmacy and Demonstrator of Materia Medica at University College. Medical References and a Therapeutic Index of Diseases and Symptoms. By W. WYNN WESCOTT, M.B. Lond., Deputy Coroner for Central Middlesex. Sixth Edition. London: H. K. Lewis, 136 Gower st., W. C. 1890.

This concise little volume is familiar to American as well as to English physicians, the present edition numbering the thirty-sixth thousand copies.

The necessary revisions have been made. The derivatives obtained from coal, tar and alcohol, which are now so prominently presented as new remedies, are incorporated in the text. The volume is compact in form, with flexible morocco cover, and can be conveniently carried in the pocket. The posological tables are very complete, and the Therapeutical Index at the close of the volume will be found helpful, as suggestive of appropriate remedies, especially in times of emergency.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS; WITH ESPECIAL REFERENCE TO THE APPLICATION OF REMEDIAL MEASURES TO DISEASES, AND THEIR EMPLOYMENT UPON A RATIONAL BASIS. By HOBART EMORY HARE, M.D., (Univ. Pa.), B. S. C., Clinical Professor of Diseases of Children and Demonstrator of Therapeutics in the University of Pennsylvania, etc.

This valuable and practical work of over six hundred pages is published by Lea Brothers & Co., in their usual creditable style. The aim of the author has been in a very effectual way to bridge the chasm which lies between the theory and the practice of medicine. To this end the physiological actions of remedies are clearly set forth so far as they are known, and the pathological condition in which their use is indicated, are concisely described. The reason why in particular stages of diseases particular remedies are required is just that which the young physician most needs to know, and the ready reference to the drug that shall meet that requirement, and the reason for its use, is just the instruction which

raise one from empiricism to the higher plane of rational practice.

We can heartily commend the work for its intelligent and reliable review of the prominent therapeutical agents in use, and for its intelligent explanation of the reasons for their administrations in the treatment of diseases. The remedies considered are arranged in alphabetical order, as are also the diseases to which reference is made. A valuable portion of the work is that devoted to remedial measures other than drugs and to the consideration of goods suitable for the sick. A table of doses of remedies and a copious index add to its value and convenience. An examination of the work will ensure approval, and as a practical reference book it will be found helpful.

ASSOCIATION NEWS.

American Medical Association.

Forty-Second Annual Meeting, at Washington, May 5 to 8, 1891.

LOCAL COMMITTEE OF ARRANGEMENTS.

D. C. Patterson, M.D., *Chairman*; C. H. A. Kleinschmidt, M.D., *Secretary*.

SUB-COMMITTEES.

Registration.—Drs. Bulkley, J. O. Adams, Bovee, Herman H. Cook, Eliot, J. D. Morgan, Manning, J. D. McKim, Mallan, Osmun, Ober, Radcliff.

Finance.—Drs. Stanton, B. B. Adams, Balloch, Crook, Chamberlin, Harrison, Hood, Magruder, Newman, Sowers, Toner.

Entertainment.—Drs. Prentiss, Bromwell, Deale, Fenwick, Franzoni, Hyatt, Johnston, H. L. E. Johnson, Richardson, Rixey (U. S. N.), Witmer.

Transportation.—Drs. Hawkes, Acker, Burnett, Lee, Mundell, Townshend, Jas. T. Young.

Hotels and Boarding Houses.—Drs. Reyburn, Bracket, Friedrich, Leach, Lamb, Murphy, Sothorn.

Reception.—Drs. Lincoln, Bryan, Fry, A. Hegar, U. S. A., J. T. Johnson, Loring, Mackall, Marmion, Peter, A. C. Patterson, Rosse, T. R. Stone, T. C. Smith, Walsh.

Place of Meeting of Sections.—Drs. Lovejoy, Beatty, Bayne, Callan, Hill, D. H. Hazen, H. Leach, McLaughlin, J. C. McGuire, Neale, Spriggs, J. T. Winter.

Information.—Drs. Hickling, B. B. Adams, S. W. Bogan, Byrns, Neale.

Exhibits.—Drs. Patterson, S. A. H. McKim, Stanton, Toner.

Printing.—Drs. Hamilton, Barker, Briscoe, W. P. C. Hazen, Henderson, Poole.

The several Committees, as well as the Committees as a whole, have met and mapped out the

work in hand for the accommodation of the Association. The General Meetings will be held in the auditorium of Albaugh's Opera House, the basement of which having been secured for the exhibits.

SPECIAL CORRESPONDENCE.

The Effects of Anesthetics Modified by Altitudes.

To the Editor:—The case which I desire to report caused much unfavorable comment in the community where it occurred, namely, one of the high mountain cities of Colorado—elevation 10,000 feet. Surgeons use chloroform at these extreme elevations almost exclusively. For some occult reason either, or any of the anesthetic mixtures do not act well, and are considered by common professional consent dangerous; not because they have frequently produced death, but because of the enormous quantity necessary to produce anesthesia. For this reason chloroform, which causes complete insensibility very speedily, and in small quantity, is mostly used.

On January 18 of the present year a man of 37 years of age was placed under the influence of chloroform for operation for organic urethral stricture in the spongy urethra. The stricture was of small calibre and the individual had had several attacks of retention following debauches. In the course of the chloroform the subject presented no symptoms of an alarming character until efforts were made to operate by the cutting method when, suddenly, the respirations stopped, a few convulsive shudders, a few flutters of the heart, and the patient was dead. Artificial respiration, ammonia by hypodermic injection, and the interrupted current failed to give the slightest encouragement, as a means of resuscitation.

These matters came to my knowledge as coroner's medical adviser, popular indignation demanding investigation and prosecution criminally of the unfortunate medical attendant. The post-mortem examination revealed heart dilatation, enlarged spleen, liver—results of chronic alcoholism. As chloroform is given in this locality many times each month, and as this is the first recorded death in ten years from chloroform, it has attracted more than ordinary public attention.

M. H. SEARS, M.D.

Leadville, Colorado.

Dislocation of Long Bones.

To the Editor:—In No. 6, Vol. 16 of THE JOURNAL I find a communication from Dr. Murdock to the Allegheny County Medical Society giving the details of the reduction of the dislocation of the head of the right femur upon the dorsum of the ilium by extension and counter extension; which brings forcibly to my mind two principles laid down by two eminent men in regard to dislocations of long bones. One by the late lamented Prof. Moses Gunn, of Rush Medical College, Chicago, to-wit, always make extension in the line of deformity. The other, by the late lamented and eminent George Sutton, M.D., of Aurora, Ind., which is: In reduction of the head of the femur or humerus, use a fulcrum in the groin or axilla by which the long arm of the lever, the femur or humerus, as the case may be, can be used efficiently. In the case cited by Dr. Murdock both of these principles were brought to bear. The foot of the young medical student in the groin was the fulcrum and extension was made in the line of deformity. When the thigh of the dislocated limb was brought across the thigh of the sound one the pressure necessary

to effect this was sufficient, acting on the long arm of the lever, the femur pressing on the fulcrum, the student's foot, to raise the head of the femur over the lip of the acetabulum, and all extension then had to do was to cause the head of the femur to travel back through the rupture of the capsular ligament and drop into its place in the acetabulum. The position the dislocated limb was made to take also relaxed the V ligament.

This case also is a confirmation of the position taken by Dr. McCann in the discussion, contrary to the position of Dr. Murdock, that dislocation does not take place at any other point than at the lower and anterior portion of the acetabulum. In the case cited if the capsular ligament had not been ruptured externally and upwardly the means used for reduction would not have been successful, but if it had been torn inferiorly and anteriorly it would have been reduced by manipulation if a fulcrum had been used in the groin.

JAMES LAMB, M.D.

Aurora, Ind., Feb. 17, 1891.

Absence of Uterus.

To the Editor:—The interesting case reported in No. 8 of THE JOURNAL by Dr. McShane, of Carmel, Ind., recalls to mind a case I had a few years since. A lady, aged 24 years, consulted me to ascertain why she could not have children. She had been married six years, was well developed, not masculine; breasts were normal, the puerium normal, and well covered with hair.

I found by digital examination a good-sized vagina, but no cervix uteri; in fact, there was nothing but a smooth, well arched vagina, about 4 inches in depth. I introduced a sound into the bladder, and with my finger in the rectum I could readily feel the sound, showing that there was complete absence of the uterus.

Having been a member of the Association for several years, I think it best to let well enough alone and publish THE JOURNAL at Chicago.

H. W. CARPENTER, M.D.

Oneida, N. Y.

A "Practical Note."

To the Editor:—I am very glad to see your "Practical Notes." Keep it up and enlarge, and as you have one for carbuncle I will try to help you out with mine. In 1855 Stone and Hunt, of New Orleans, taught the + incision. I kept it up under cocaine. Now then fill the carbuncle full of dry salicylic acid, it completely dissolves all the hard white tissue; wash it away with sublimate soap and hot water; fill cavity with peroxide of hydrogen; when bubbling ceases sponge out with cotton; dress with basilicon ointment and as soon as matter reforms repeat acid, etc. It makes a rapid and painless cure.

A. P. BROWN, M.D.

Fort Worth, Tex., Feb. 19, 1891.

Shall The Journal be Removed to Washington?

THE ACTION OF THE CHICAGO GYNECOLOGICAL SOCIETY.

The following resolutions, formulated by a committee appointed at a preceding meeting, were adopted by the Chicago Gynecological Society February 20, 1891:

WHEREAS, There is a disposition on the part of a portion of the Board of Trustees of THE JOURNAL of the AMERICAN MEDICAL ASSOCIATION to move THE JOURNAL from its present place of publication, Chicago, to Washington, D. C., and

WHEREAS, The Board of Trustees invites a free discussion in the columns of THE JOURNAL, with a free expression of opinion from societies and individuals, be it therefore

Resolved, That it is the opinion of the Chicago Gynecological Society, that any change in the place of publication of THE JOURNAL, at this time, will be detrimental to the interests of THE JOURNAL as well as to those of the Association, and be it further

Resolved, That the delegates elected from this Society to the

next meeting of the Association be duly instructed to oppose in every legitimate manner such removal.

(Signed)

BAYARD HOLMES,
HENRY T. BYFORD,
HENRY P. NEWMAN,
FRANKLIN H. MARTIN,
Committee.

To the Editor:—I have watched with considerable interest the lengthy and numerous discussions which have been presented in your columns in regard to the proposed removal of THE JOURNAL to Washington. I cannot see wherein any advantage whatever would accrue to THE JOURNAL by such a change in its location. The American Medical Association is not a sectional body; or if it is open to the charge of sectionalism at all, as some may maintain, it certainly is not an Eastern organization. The greatest loyalty to its integrity, honor and development, cannot be claimed by the medical profession of the States East of the Alleghany mountains, as a body. This remark is not intended to reflect in the least upon the illustrious services of a large number of Eastern physicians without whose cooperation the American Medical Association would not be what it is to-day. Nevertheless the fact as stated cannot be successfully challenged.

THE JOURNAL was born and has been reared in the West. And while it may not have become all that its promoters could wish it to be, yet the assumption that it could have done better, or even as well, any place else is entirely gratuitous. Unlike the Association THE JOURNAL must have a habitat; and, irrespective of any other consideration, it should be located somewhere near the geographical centre of the distribution of the membership of the Association. This might be a reason for moving it farther West than Chicago if such another centre could be found in that direction, but certainly is an objection to its removal Eastward. It would make a difference of at least one day in its delivery to all points West of Chicago by removing it to Washington. So much for the geographical question.

In regard to the facilities for journalistic enterprise, Washington is not ahead of Chicago in any single point except the National Library. The Chicago profession is easily the peer of that of Washington. The business interests represented by Washington are scarcely worth mentioning in comparison with those of Chicago. So that whatever advantage might be derived from local business interests by the advertising department, which is certainly an important feature in the medical journal of to-day, would all be in favor of Chicago.

Those who are inclined to criticise the status of THE JOURNAL, and the grade of its contributions should remember that as an organ of an Association meeting once a year it is placed at an enormous disadvantage. Papers written and read at the annual meeting are scattered through the fifty-two weekly issues of THE JOURNAL, half of them being more than six months and many of them nearly one year old before they appear. In this age of enormously rapid progress many papers and facts grow stale or obsolete in much less time than that. Besides this it is impracticable for the officers of Sections to exercise any discriminating judgment in regard to what shall be placed upon the program. And while the general standard may be, and I believe is creditable, and in many instances ranking very high indeed, there must necessarily be an unfortunately large proportion of rubbish mixed with it. These are difficulties not peculiar to Chicago, but simply peculiar to this method of conducting a journal in the interests of an organization which meets only once a year. It seems to me that we should set ourselves to work in some way to remedy the defects of THE JOURNAL inherent not in its location or editorial management, both of which are creditable in a high degree, but rather dependent upon the peculiar circumstances under which it is published.

G. W. McCASKEY, M.D.

26 W. Wayne St., Fort Wayne, Ind., Feb. 16, 1891.

To the Editor:—As a member of the Association, I have carefully read and compared the various reasons assigned for the removal of THE JOURNAL, or for continuing its publication in Chicago, wishing, in casting my vote, to do so only after mature consideration.

It would occupy too great space to review the pros and cons—the arguments offered on both sides of the question—those of Dr. Solis-Cohen's removal article, so ably replied to by Harold N. Moyer, M.D., and Harvey Reed, M.D.; the spicy and patriotic non-removal vote of E. Cheney, M.D.; besides various other articles appearing in THE JOURNAL under the heading: "Shall THE JOURNAL be Removed to Washington?"

Permit me, on so appropriate an occasion, to offer the tribute of my sincere esteem to Dr. E. Cheney, for the display of such unbiased and patriotic sentiments as expressed in his letter to THE JOURNAL of January 27. Certainly, if Pope was a contemporary with Dr. Cheney, he would have found an exception to the doubt expressed in the lines:

"Where is the man who counsel can bestow,
Unbiased or by favor or by spite."

Please record my vote *against* removing THE JOURNAL from Chicago, and *especially* against removal to Washington.

"Come, your reason, Jack, your reason."

While my reasons may not be "as plenty as blackberries," there being no compulsion, as in Sir John's case, I will simply urge the objection to Washington, on strictly sanitary and hygienic reasons.

I respectfully call the attention of the Trustees of the Association to page 867, "Da Costa's Medical Diagnosis," seventh (last) edition, line 17 to line 39.

Under article "Fever," calling attention to the effects of malaria in simulating acute meningitis, Prof. Da Costa states that the patient had spent part of his summer vacation in the *marshy* neighborhood of Washington—the cerebral symptoms arising in which case so simulated acute meningitis, that it was only through the use of the quinine treatment that a differential diagnosis could be arrived at.

In this connection, one of the most prominent scientific members of the medical profession in the United States, in an address before the British Medical Association, not many years ago, in speaking of the deleterious effects of malaria upon the human system, declared that malaria was autogonistic to high mental culture, or words to that effect.

I think that for the successful publication of THE JOURNAL, it should be kept as far as possible from all marshy or malarial centres, that the intellectual faculties of the editor, publisher and type-setters, *et hoc genus omne*, connected with it, may enjoy the full scope to be attained only in a pure atmosphere, uncontaminated by antagonistic intellectual influences. "*Stare decisis, et non quæritur movere*," is a law maxim it would be well to bear in mind, in considering the question of the *locus in quo* for THE JOURNAL.

C. D. OWENS, M.D.,
Pres. Louisiana State Medical Society.
Eola, La., February 16, 1891.

To the Editor:—As a member of the American Medical Association I wish to record my name "with the crowd" and say: Let the place of publication remain where it is. I think, with Dr. John M. Batten, that it should remain in its *native habitat*.

H. C. FAIRBANK, M.D.
Flint, Mich., Feb. 20, 1891.

To the Editor:—If the home of THE JOURNAL must be removed from Chicago, let it come to Galena, Ill. It was the home of Grant, Washburn, Rawlins and other great men. It is far more central than Washington and has eight physicians, equally inexperienced in editorial work with their brethren of the Capital City, and equally full of enthusiasm for the good work.

We of Galena are far from the maddening and demoralizing influence of political parties and their intrigues, and when we come home from our muddy country rides and hang up our splashed overcoats, we can give to our editorial work the full power of our massive intellects.

I think Chicago the proper place for the home of THE JOURNAL, but as I said before, if it must be removed let it come to the central city of Galena, and not to the outer edge of the territory at Washington.

HENRY T. GODFREY, M.D.
Galena, Ill.

To the Editor:—If THE JOURNAL should be moved to Washington City I am fearful much of its life and vigor would be lost. Business activity is contagious, and in Chicago we have the benefit of the stimulus of this kind of an epidemic all the time.

J. T. MC SHANE, M.D.
Carmel, Ind., Feb. 23, 1891.

To the Editor:—Keep THE JOURNAL in the great city of the enterprising West. Chicago is the only city that presents so many advantages for the publication of THE JOURNAL.

J. J. GARVER, M.D.
Indianapolis, Ind., Feb. 23, 1891.

To the Editor:—Permit me, as a member of the American Medical Association since 1877, to interpose my decided opposition to the removal of THE JOURNAL to Washington or anywhere East. From my standpoint I cannot see any good reasons for the change, while to the contrary, many sufficient reasons have already been suggested, by many members from different points of the compass, why it *should not* be removed to Washington, but should remain in the great central interior city of Chicago, where it first saw the light, and where it has served us so well.

J. H. DAVISSON, M.D.
Los Angeles, Cal., Feb. 19, 1891.

To the Editor:—To some men the arguments in favor of Chicago are too obvious and too numerous to require enunciation. Insane or insincere men I have neither ten nor inclination to labor with. Yours for Chicago, ten thousand times Chicago!

DONALD MACLEAN, M.D.
Detroit, Mich., Feb. 23, 1891.

MISCELLANY.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from February 14, 1891, to February 20, 1891.

Lieut. Col. Charles C. Byrne, Surgeon, is relieved from duty at Ft. San Houston, Tex., and will report in person to the commanding General, Dept. of the Columbia, for duty as Medical Director of that Dept., relieving Col. Bernard J. D. Irwin, Surgeon. Col. Irwin, on being relieved by Lieut. Col. Byrne, will proceed, via San Francisco, Cal., to St. Louis, Mo., and report in person to the commanding General, Dept. of the Missouri, for duty as Medical Director of that Dept., relieving Col. Charles Page, Asst. Surgeon General. Col. Page, on being relieved by Col. Irwin, will report in person to the commanding General, Div. of the Atlantic, for duty as Medical Director of that Division. By direction of the Secretary of War. Par. 6, S. O. 35, A. G. O., Washington, February 13, 1891.

Capt. Louis M. Maus, Asst. Surgeon, is relieved from duty at Ft. Stanton, N. M., and will report in person to the commanding officer, Whipple Bks., Ariz., for duty at that station, relieving Capt. Richard W. Johnson, Asst. Surgeon. Capt. Johnson, on being relieved by Capt. Maus, will report in person to the commanding officer, San Carlos, Ariz., Ter., for duty at that station. By direction of the Secretary of War. Par. 7, S. O. 35, A. G. O., Washington, February 1, 1891.

CORRIGENDUM.

In THE JOURNAL of February 21, page 256, next to the last line in third paragraph, for "bladder" read "blades."

THE Journal of the American Medical Association.

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No 10.

ADDRESSES.

FORCED RESPIRATION.

An Address delivered before the Buffalo Medical and Surgical Association, January 5, 1891.

BY GEO. E. FELL, M.D., F.R.M.S.,

OF BUFFALO, N. Y.

LATE PRESIDENT OF THE AMERICAN SOCIETY OF MICROSCOPISTS,
PROFESSOR OF PHYSIOLOGY AND MICROSCOPY MED.
DEPT. NIAGARA UNIVERSITY, ETC.

It may be well to premise what I have to say by calling attention to the difference in the meaning of the terms used. We understand by *artificial respiration*, an artificial method of breathing for an individual; but since forced respiration has been used, with such remarkable results, it seems to me terms should be employed which would be distinctive, and some time ago I made a suggestion to the profession which seems to have been quite universally adopted, to the following effect:

Auto-respiration: respiration by the individual for himself.

Deep Respiration: forcible respiration by the individual himself.

Artificial Respiration: this we understand to be that produced by the methods which have been suggested by Sylvester, Howard, Marshall Hall and others, in which movements of the limbs of the patient and pressure are made so as to draw the air into the lungs. In many instances artificial respiration cannot be depended on to furnish a sufficient supply of air to the lungs.

Forced Respiration: those measures by which air is forcibly passed into the lungs. (I do not advocate forcibly withdrawing it, because I think it to be an unphysiological method.)

At the late Berlin Congress Professor Horatio C. Wood, of the University of Pennsylvania, the only American, I understand, who delivered an address before the Congress, spoke about John Hunter and others having devised an apparatus for the purpose of breathing for an individual where it was necessary to do so. I will quote from Professor Wood's address on "Anæsthesia" his remarks in this connection, which will indicate that some of the brightest lights of medicine have considered the subject of forced respiration, but have not demonstrated its value;

but, through the failure of their efforts, rather relegated it to the field of impracticable methods.

The use of what may be called "forced" respiration by the physiologist so naturally suggested a similar practice in man, that the celebrated John Hunter invented for the purpose an apparatus which consisted of a bellows so constructed that when it was extended one compartment drew in air from the lungs, whilst the other drew air from the atmosphere; and when it was closed the process was reversed, the fresh air being thrown into the lungs, the foul air into the atmosphere. In 1867, Richardson, of London, invented an apparatus more elegant and portable, although identical in principle with that of John Hunter's; but I have not found that either Hunter or Richardson treated by forced artificial respiration an actual case of disease or poisoning. In 1875 *Boston Medical Journal*, Vol. xxi.) Dr. John Ellis Blake reported a successful case of aconite poisoning, in which life was apparently saved, although there was no pulse for over three hours, by artificial respiration, with the use of oxygen. In this case Marshall Hall's method was at first used, but later a small rubber tube was connected directly with a copper reservoir of condensed oxygen, the other end of the tube terminating in a small nozzle, which was inserted in one nostril. Four hundred gallons of oxygen were thus used, but how far the force of the compressed gas was employed to dilate the lungs is not very clear; and it is somewhat doubtful whether this case should be considered as one of forced respiration. The first physician to use forced respiration in actual human poisoning, with a clear idea of its value and power, so far as my reading goes, was Dr. George E. Fell (International Medical Congress, Washington, 1877).

It is plain that the bellows constructed by John Hunter and by Richardson are unnecessarily complex and faulty in principle. There is no need whatever of drawing the air out of the fully filled lungs. Every physiologist knows that when the muscular system is completely paralyzed by woorari or even by death, that the chest-walls have sufficient elasticity to force air out of the lungs, and all ordinary laboratory apparatus for artificial respiration is based upon this fact. For forced artificial respiration in man, an ordinary bellows of proper size is all that is required for the motive power.

The real difficulty—the point to be especially investigated and studied—is as to the connection between the bellows and the lungs. Hunter and Richardson simply placed a tube in one nostril, closing firmly the other nostril and the mouth of the subject.

Dr. Fell at first used a tracheal tube, the insertion of which, of course necessitated the performance of tracheotomy. In one case, however, a simple mask covering the mouth and nostrils was a perfect success. I have had no opportunity of trying the apparatus on the living, but have made a series of experiments upon dead bodies, which have demonstrated that usually a face-mask is all that is necessary for the performance of artificial respiration. Before using the mask the tongue should be well drawn forward, and if necessary fixed in this position by

an ordinary piece of suture silk run through it, which can be held in the hand of the operator. If in any individual case the mask fails, an intubation tube may be introduced into the larynx. I do not believe that it is ever necessary to perform a tracheotomy.

Dr. Fell's apparatus consists of a pair of foot-bellows (the bellows have always been used by hand power), by which air is forced into a receiving chamber, which is connected with an apparatus for warming the air, and a valve which can be opened and shut by a movement of the finger. This valve in turn leads to the tracheal tube. When the valve is opened the air rushes through the chamber into the lungs and expands them; the finger is lifted, the valve shuts, the lungs contract; and so the respiration goes on. I have no doubt that this apparatus is efficient in practice, but it is open to the serious objection of being unnecessarily complex and costly.

A much simpler, cheaper and probably equally efficient apparatus may consist simply of a pair of bellows of proper size, a few feet of India rubber tubing, a face-mask, and two sizes of intubation tubes. There should also be set in the tubing a double metal tube, with openings so placed that their size can be so regulated by turning the outer tube (similar to that commonly found in the tracheal canula of the physiological laboratory), so that it is in the power of the operator to allow for the escape of any excess of air thrown by the bellows. I suppose this whole apparatus could be prepared at a very small cost, and it seems hardly necessary to point out its probable value in various narcoting poisonings, and in other accidents in which death is produced by a temporary paralysis of the respiratory centres. The proper use of it could be taught to persons without special medical skill, so that it ought to form a part of not only the surgeon's outfit, but might be of great service in life-saving stations, about gas-works, etc.

I will comment on Prof. Wood's article later on.

My first operation of forced respiration, was not made upon the spur of the moment. I had thoroughly considered it, for fully a year, but when the opportunity did present it was a remarkable one, and I took advantage of it. Shortly after that first operation I made a series of notes upon what I believed to be the value of the operation. These were made in my note-book in the year 1887. I then said that I believed forced respiration would accomplish more than any method of artificial respiration, either in cases of drowning, or even in cases of shock—in cases of asphyxia of whatever nature. I am glad to state now that I am more than ever satisfied of the truth of those statements. In the last case which I will report here to-night, the demonstration will bear this out.

I should like to enter somewhat into the interesting experiences which I have had since making my first operation, and the trials and tribulations to which I have been subjected in the promotion of the measure; but I presume that any one who makes an operation possessing so far reaching an import as does forced respiration, will probably have a like experience. I made my first operation in July, 1887, and saved a life which I had thought there was no possibility of saving. When I made tracheotomy in that case I felt that I was making the operation

upon a cadaver, and worked accordingly. When the man gave evidence of life, I was as much surprised as any one present. I rightfully became quite enthusiastic over the operation. When some time afterward, I went to Pittsburgh as Treasurer and Custodian of the American Society of Microscopists, to attend the annual meeting of that Society, it was suggested that I might explain my methods to some of the physicians there. Some of Pittsburgh's ultra-conservative physicians, however, thought it was just as well to let me go to Washington, where I was intending to read a paper on the subject, "for fear there might be some under-hand business about it." Then, some of our Buffalo physicians intimated that what I had done was nothing novel; the operation was an old one, said they; dogs had been treated (*killed*) by forced respiration ever since vivisection came to be utilized in the medical colleges. I was well aware of that, but I had never been taught in medical college that forced respiration would *save* even a dog's life, much less the life of a human being. And this was the teaching of the world at that time. I knew that my apparatus was original in its conception, practicability and results, and took steps which assured this fact. As a further fact, to show what even at the present time the teaching is, and to indicate the necessity of repeatedly presenting this subject to the profession, I will merely state, that if you will turn to the last "Blakiston's" "Visiting List," you will find, under "Marshall Hall's ready method in asphyxia," that the directions are to "avoid the immediate removal of the patient, as it involves a dangerous loss of time; *also the use of bellows or any forcing instrument.*" This is what the medical profession was taught to believe at the time I made my first operation. I was treading upon the accepted principles of the profession, and liable to severe censure had I failed in my first operation.

Well, as stated, I went to Pittsburgh, and the conservatism of the profession showed itself there by refusing to listen to what I had to say upon the subject. When later, I went to Washington, I was not heralded by any fore-runners, was acquainted with but very few individuals at the International Congress, and it was with the greatest difficulty that I had an opportunity to read my paper at all; and what was the most peculiar feature of the whole circumstance was, that, even among a class of men supposed to possess the highest medical knowledge, not any of them saw the point which presented in that first case of forced respiration, in which I breathed for a man two and one-half hours with a tube in his neck. They did not grasp that point. And I now make the statement, without fear of contradiction, that there was not a paper presented at the International Congress at Washington which had a

¹ I do not agree with Dr. Wood, reasons given further on. F.

farther reaching import, if to save human life is desirable, than that little paper on "Opium Poisoning," which I presented—a paper embodying in it demonstrations which would alter and advance one of the greatest medical practices of the day, a practice of wide application. It demonstrated what was before not practically accepted in medicine, that we could force air into the lungs for an almost unlimited period without danger to the delicate lung tissue. Dr. Vandenburg, of Columbus, Ohio, a disinterested observer, speaks of it as "one of the most interesting and valuable therapeutic discoveries of the day."

When I managed, however, to read my paper at Washington, they did me the kindness (?) not to publish it in the proceedings. After I had saved my third life, however, by forced respiration, and the world could not question methods which were so positive in their demonstrations, and so undeniably original, there not being a similar case on record, I had a discussion with the Chairman of a Section, and also with the Secretary-General of the International Congress, and from that discussion, which can be produced if it should be necessary, it was evident that my paper either was not carefully read, or the principal point conveyed by it was not grasped by the members of the committee.

In my first case, a man had taken 20 grains of morphia. After two and a half hours of forced respiration with the apparatus his life was saved. That is, after the dilatation of asphyxia had taken place, and all known methods had failed.

In the second case (not mine), a man had taken 8.24 grains of morphia. This case occurred in Vienna, Austria, two months after my first case. After four and a half hours of forced respiration, that is, you must note, after artificial respiration had failed to do any good, the patient was saved by forced respiration.

In the third case (my own), a man had taken 2 ounces of laudanum. It had been demonstrated that artificial respiration would not save him. He was dying. Then we began with forced respiration, and after fourteen and one-half hours with the new apparatus which I had devised, his life was saved. That was by tracheotomy.

But the fourth case came. A man had taken 2 ounces of laudanum, had severed the anterior jugular vein, and had lost a large amount of blood. For twenty-one and one-half hours continuously applied forced respiration kept him alive until he could breath for himself, and then in a few hours he asked that it be applied again. He is now living in the southern part of the States, in good health. In this case was demonstrated a very interesting point which has not been brought out prominently, which is, that in a case of great loss of blood from hæmorrhage it does very little good to inject ether or brandy

into the peripheral capillaries, unless you can inject it into, or proximally to a large vein, where you know it will be taken into the circulation. The patient laid in bed nearly two months merely because the ether and brandy which had been injected into the chest produced a gangrenous condition of the tissue. The fluid was not carried off by the capillary circulation, and the muscles of the chest sloughed away, down to the ribs. In the thigh, where injections had also been made, owing to the same cause existing, a weak or very slow capillary circulation, an abscess formed, and a cup of pus was removed on the first incision. This demonstrated very interestingly the necessity of care in the employment of hypodermic medication where there is excessive hæmorrhage.

Following these interesting cases, came a series in which the results were not so successful. An old gentleman, 80 years of age, had taken 1 ounce of laudanum. At the hospital artificial respiration was used, the hospital physicians gave him up. Then forced respiration kept him alive for some twelve hours after that.

One of my most interesting cases was a little child, 18 days of age, of one of our prominent citizens, which had accidentally been given 1 grain of morphia by a physician of the homœopathic school. The little one took the whole of the poison, equivalent to about eighty doses, and came under the influence of it. It was given about a quarter to one. I was called at five o'clock. Without proper apparatus I went to work and made tracheotomy, a most difficult undertaking in one so young; but I succeeded in getting down to the trachea. I then with a small catheter inserted into the trachea, kept up forced respiration, with bellows and valve, with the result that the little one, which was markedly cyanosed, became of a natural hue, the blood became oxygenized, and it breathed for itself a short time. The bowels moved and the evidence was strong that the child might live. But owing to the long time during which the asphyxiated condition had lasted through the influence of the poison, it was too much to expect that we could retain the vital condition of the tissue of the brain for a sufficient time, as was demonstrated by the heart failing to act some four hours after the forced respiration was begun, when death supervened. This was one of the most striking demonstrations I ever had of the value of forced respiration.

Again, it is usually conceded that when you can obtain no pulse at the wrist and no heart action on auscultation, that an individual is (nearly) dead. This condition existed in one instance which occurred. It was a case of opium poisoning. The day before this case presented, I was about to make tracheotomy and carry out my operation in another case, when I noticed indications that the patient would probably live with-

out it; we waited, and he did pull through without the operation. The next day I had the case referred to. I waited until there was no pulsation at the wrist, and could detect no heart action on listening over the chest-wall. I then made tracheotomy. The blood was markedly venous, but upon passing oxygen into the lungs it became oxygenized and red, and furthermore, the heart action became distinct, and the pulse again was present at both wrists. But after an hour the heart again ceased beating. I had waited a little too long before beginning the forced respiration.

After this I demonstrated another method, by which we could perform forced respiration without tracheotomy, and the first application of it occurred in trying to keep alive a still-born infant by passing a tube into the mouth and compressing the nostrils; I succeeded in keeping it alive for a number of hours. Owing, however, to compression of the brain produced in labor which existed, there was evidently no chance for the child to live, and I gave up the attempt. So long, however, as the forced respiration was kept up, the heart continued to beat.

Then came another case which demonstrated, also, that life can be kept up by forced respiration without tracheotomy. A man had taken 2 ounces of laudanum. One of the physicians² present called attention to the dilatation of the pupils as an indication of the very near approach of death. I had begun to make the operation for tracheotomy, but found the blood markedly venous. I stopped, and inserted the tube of the apparatus in the mouth, closed the nostrils and forced air into the lungs through the mouth, and had the satisfaction of seeing the blood in the neck turn from a dark purple to bright scarlet, indicating that there was sufficient heart action to carry the oxygenized blood through the system, and demonstrating the valuable fact that through the mouth and the nostrils sufficient air could be made to pass to the lungs for a time to retain life without the necessity of tracheotomy. This subject seemed to have a mania for committing suicide by taking laudanum, and afterward took 2 ounces of laudanum and about 5 or 6 grains of morphia; I repeated the operation of tracheotomy, and again saved him. Upon making a third attempt he was sent to the asylum, and is now, I believe, cured of his peculiar habit.

Another case presented in which a young woman took 2 ounces of laudanum; by breathing for her four hours with the face-mask alone, her life was saved, *i. e.*, without tracheotomy.

Now comes a case which I want particularly to call your attention to, as one in which some facts were demonstrated which I had been waiting for for a long time. Dr. Wood, while admitting that I made the first comprehensive op-

eration of forced respiration, criticized the apparatus used, and in reply to his objections I desire to state that when I made my first operation it was with incomplete apparatus, and it was surprising on this account that I did not lose the case. Had I failed it would probably have "settled" the question of forced respiration. Before, however, attempting to construct a suitable apparatus, I very carefully considered the details and the conditions to be met, and the apparatus as finally devised consists of a tracheotomy tube, a tube connected with the air-control valve, and then a tube connecting that with the air-warming apparatus, which in turn is connected with the bellows by another tube. With this apparatus, whether on board of a ship, or even on the ice, or elsewhere you can supply the human lungs with air at the temperature of the body within five or ten minutes at the most from the time you begin, and can keep it up for an unlimited time. So it will be seen that while my apparatus covers almost all the conditions for every case that may present, yet it also answers for the *most simple method possible* in forced respiration. That is, you can use the face-mask, rubber connecting tube and bellows alone, or the face mask, air control valve and bellows alone, which I would by all means recommend as much better than the former combination. In this last case, a woman had taken an uncertain amount of morphia—a large amount, however, as was evident from the effect produced upon her. About midnight a physician was called, but refused to attend, so that she was under the influence of the narcotic all through the night, until about 10 o'clock the next morning. I was called at 9 A.M., and arrived about 9:30. I ascertained there was no pulse at either wrist, but on auscultation found the heart faintly acting, cyanosis deep. I then had her placed upon a mattress in an adjoining room, and with the face-mask, air-control valve and the bellows, went to work. I digress again to state that the point of interest in connection with this air-control valve is this, the moment you press the lever the air passes into the lungs; release it, air can pass out of the lungs, or it can pass into the lungs (though not from the bellows), or auto-respiration can take place. The moment the valve is pressed down, though the bellows may be ten or twenty feet away for that matter, yet the air is under continual pressure, and enters the lungs from the valve without any loss of time. You have absolute control of the air passing to the lungs; and this is the important factor in the whole proceeding. (Also in the use of the valve, as improved oxygen can be systematically administered). If you had the bellows and the face-mask alone, the air would necessarily have to come clear from the bellows, through the tube, to the face-mask, before you could be sure of its passing into the

² Dr. Carlton C. Fredericks.

lungs, and consequently the respiration could not be carried on so satisfactorily. Dr. Vandenberg's apparatus operates, I believe, so that when you work the bellows air passes into the lungs; but when you stop the bellows, the flow of air ceases; and I do not think there is as quick control of air passing to the lungs as by the method I have used so satisfactorily. Furthermore, all the physician has to do is to work the air-control valve, and any one can work the bellows, which is the work in which physical exertion is expended. In the case now under consideration, I worked for fully an hour and a half before the pulse at the wrist could be detected. The woman then became conscious, sat up and asked for a drink.

In the middle of the afternoon, Dr. Porter came in to witness the operation and offered his assistance, which was accepted. It may be stated that when a person is very deeply narcotized, with forced respiration we may occasionally produce a conscious condition, but the patient will again pass under the influence of the narcotic, and become utterly unconscious. You may breathe for him or her for half an hour at a time, yet there will be no evidence of life except the action of the heart and the fact that the blood is supplied with oxygen. So this lady would occasionally become conscious. During one of these conscious periods Dr. Porter, who had been standing in one corner of the room, came forward and began to perform Sylvester's method of artificial respiration—with the object, I presume, of demonstrating that it would accomplish as much as what I was doing. He understood how to apply that method from previous experience. All watched the result with interest. In a little while, the cyanotic condition began to appear along the face, gradually becoming deeper and deeper. I said, "Doctor, you see now just what the result is." "Yes," he said, "there is no question about it." We then renewed the forced respiration with the face-mask. In a short time the cyanotic condition disappeared, and the woman again became conscious. I regard it as a very important and interesting fact to state, therefore, that we had here a demonstration that forced respiration with the face-mask will accomplish more than the best of the methods of artificial respiration in use in the past throughout the world. You can save life by forced respiration by this method when you cannot possibly do it by any method of artificial respiration whatever. I kept up forced respiration with this woman until she revived again, and began to be in quite a jovial condition, and as I thought, was perfectly safe. Then Dr. Porter desired to try the Faradic battery, which I consented to, regarding the woman's condition such that, were it necessary, we could at any time rely upon the forced respiration again. I was anxious, of course, to report this as another case of life saved by forced respiration. After

breathing some eight hours and carrying the case through the most critical period, we called the Faradic battery into play. But what is the result of faradization in a case of that kind? Merely the stimulation of the heart at the expense of its energy. However weak the current may be, if you obtain any heart action, it is of a tonic nature, and secured at the expense of the energy of the heart muscle. What we need to look out for in such a case is to conserve the energy and the vitality of the heart muscle. In this case the result was that after about three-quarters of an hour of faradization the heart stopped beating, spasmodically. The case was lost through faradization.

Now, a moment to consider the relative value of tracheotomy and of the face-mask in forced respiration. Is tracheotomy any better than the face mask? Prof. Wood, of Philadelphia, says he does not think it will ever be necessary to resort to tracheotomy. My belief is, founded on this last case, that in a long-continued operation it is possible to breathe for the patient more easily and thoroughly by resorting to tracheotomy. In respiring for a person with the face-mask, it must be remembered that the passage to the stomach is open, and the air passes down the oesophagus to stomach and intestines. This presents the difficulty in working with the face-mask. If it is desired to eliminate poisons the patient may be given anything without danger of fluids passing into the trachea, by the tracheotomy method; and you have better control of the patient. If I had a case in which I thought I should have to respire for the patient for eight or ten hours or more, I would make tracheotomy, feeling that I could accomplish more, and have more thorough control of the patient.

I do not recommend as yet intubation, because I think there are many cases, in fact have seen many, where it was not practicable owing to the difficulty of intubating the larynx; and if we can pass air into the larynx or trachea without intubation, as by the face-mask, it is of course always better to do it. This is my opinion, from the experience derived in operations on a dozen living beings.

In these experiences I have encountered, I think, quite a number of facts bearing upon the treatment of opium narcosis which are both new and valuable; but I will not refer to that at the present time. I merely wish at this time to call attention to the interesting fact that with the face-mask and forced respiration more can be accomplished, as I believe, than by any method of artificial respiration; and the widely accepted dictum of Marshall Hall that we must use no forcible measures, leads me to give unusual emphasis to this statement.

I will merely add, in closing this inpromptu talk, that fifteen lives are so far to be credited to

the operation of forced respiration. When it comes into general use in cases of drowning, shock, the tiding over of critical cases, in asphyxia from whatever cause, as well as from narcotic poisons, who will not admit it is one of the most important procedures at our command?

(For discussion see Society Proceedings.)

ORIGINAL ARTICLES.

MORVAN'S DISEASE; WITH THE CLINICAL REPORT OF A CASE.

Read before the Chicago Medical Society, March 2, 1891.

BY ARCHIBALD CHURCH, M.D.,

PROFESSOR OF NEUROLOGY IN THE CHICAGO POLICLINIC, ETC.

The first description of the diseased state which by courtesy and for convenience may be called "Morvan's disease," was made by Dr. Morvan, of Lannelis, in Brittany, and published in the *Gazette hebdomadaire de Médecine et de Chirurgie* in 1883, under the title of "Parésie Analgesique avec Parésie des Extrémités Supérieures." Since that date he has made numerous communications on the same subject in the same journal, with the reports of eighteen cases. In 1885 M. Broca (*Ann. de Dermat. et de Syphilis*) published a case, and in 1887 M. Prouff (*Gazette Hebdom.*), another Breton physician, recorded one, followed by Hanot in the same year. In 1888 d'Oger de Speville collated in a Paris thesis nine cases from various sources. In 1889 Heckel published a clinical observation (*Berlin Klin. Wochenschrift*). The same year (*Sem. Méd.*), Gombault reported the autopsy of Prouff's case before the Société Médicale des Hôpitaux de Paris, and in 1890 Charcot (*Prog. Méd.*) published a clinical lecture on the subject, to which the writer is mainly indebted for the following description and for cuts 1 and 2.

A majority of the recorded cases have been among the Breton peasantry, but the condition was first observed in that locality, and possibly is as frequently found elsewhere, though not recognized under this name or as a disease of the central nervous apparatus. Morvan's attention was first attracted by finding a painless whitlow. In his first paper (1883) he says:

Twenty-five or thirty years ago a man of 60 presented himself, with a whitlow on one of his fingers. We made out a necrosed condition of the ungual phalanx and proposed to make an incision and extract the bone. As the patient gave his permission with reluctance, he was assured that the incision would be made like a flash, so that he would not have time to suffer. The cut, which was sufficiently free, was accordingly made, but what was our amazement to see the calmness of this man. Not a complaint! Had he been of wood it would have been quite the same. He affirmed that he had not suffered at all. . . . Taking a pin, we thrust it into various portions of the hand and forearm, which were swollen, without causing distress.

Originally Morvan stated the three characteristics of this condition to be, 1. Initial pains of a neuralgic sort in the extremities; 2. The appearance of paresis and analgesia, mainly in the hands; 3. The appearance of successive painless and destructive whitlows. Subsequently he modified this dictum, as cases fell under observation in which sensation was not materially changed, or in which paresis was absent, so that the only characteristic to be insisted upon is destructive and numerous whitlows.

The disease has numbered more men than women, but the few cases recorded do not justify generalization in this and many other particulars. Instances have been noted at all periods of life from twelve to sixty years, and for the most part occur in individuals exposed by out-door avocations. As it is the lower portion of the cervical enlargement that is primarily and mainly affected, the exposure of the neck by these people to the inclemencies of the seasons may be worth noting, *en passant*, as a predisposing factor.

The tangible clinical points of any one case are rather meagre, and, owing to the essentially chronic and progressive course of the malady, the early phases are often left in doubt through the forgetfulness of the patient. Frequently there is a history of neuralgic pains of long duration in the extremities afterwards affected, and this is followed by weakness. Sooner or later a felon makes its appearance and, depending upon the condition present as to analgesia, is painful or absolutely free from discomfort, though the swelling, redness and ulceration may attain a destructive grade. Indeed, the tendency of these inflammatory disturbances is to produce more than an ordinary amount of destruction and mutilation. There is usually exfoliation of a part or the whole of the terminal phalangeal bone, and the upper ranks are not infrequently lost. The nail matrix is also affected, resulting in dwarfed, claw-like nails, or only slight horny protuberances may be left. When the analgesia is pronounced, an apparently exquisitely tender felon may give no pain upon manipulation and, as we have seen, not even resent the knife. In this condition the patients have frequently themselves picked out the bony fragments, the slight discomfort not leading them to seek surgical aid. Such fingers present a characteristic appearance. They are short and thick, and if the middle phalanx, or more emphatically if all the phalanges are lost, the presence of the stunted nail at the end of the stump is sufficiently noticeable. It appears as if the finger had been telescoped. (Cuts 1 and 4.) In some cases other evidences of dystrophy are present. The flexures of the fingers and the palmar folds are liable to cracks and fissures which are difficult to heal, and may present thickened epidermic margins about an indolent ulcerated centre, comparable to perforating ulcers of the

feet due to nerve injury, and not rarely found in tabes dorsalis. While the first felon may be painful, and marked by all the misery that usually attends them, succeeding ones are not, and, as a rule, both hands are eventually invaded. In one of Morvan's cases the lower extremity was finally implicated. Cases present from two to ten successive whitlows, and every digit may be mutilated by them. The tendency is to their symmetrical distribution. The hands become cold, dry, and subnormal in temperature, or may be the seat of profuse sudation and chronic swelling. Broca called attention to the fact, confirmed by Morvan, that the spinal column in over one-half the cases showed by distortions the tendency to dystrophy in osseous structure. The scoliosis or kyphosis, however, is usually slight in degree, and not accountable for any injury to the spinal cord. Indeed, it is a result of the implication of the cord, and another evidence of the impairment of the cord's trophic functions. As a rule, the convexity of the curvature is toward the hand

cases the body is invaded more or less widely. The forearms and hands often present considerable muscular atrophy, and to the electric current manifest changed reactions indicative of nerve degeneration. Superficial and deep reflexes are not noticeably changed, nor is coördination materially modified.

Gombault's autopsy of Prouff's case furnishes all that is known of the anatomy of the disease, with the exception of some minor observations made upon the amputated extremities of the fingers, which furnished evidence of peripheral neuritis. This, the only case completed by an autopsy, was a woman of 56 years, who from the age of 12 had suffered from a series of whitlows which had caused considerable mutilation, marked by trophic troubles of the skin and muscles with errors of sensibility, all located in the hands. The spinal cord and peripheral nerves of the upper extremities were particularly examined. He says:

The nerve lesions consisted in an exaggerated production of connective tissue, with degeneration and disappearance of a large number of the tubules. These lesions presented the sort of distribution attributed to ascending neuritis; that is to say, they were more marked at the periphery and gradually diminished as the body was approached. In the spinal cord the alterations were localized in the cervical region, and only implicated the posterior horns, the posterior columns, and a small portion of the central gray substance. All these parts were the seat of an abnormal and diffuse development of interstitial tissue with thickening of the arterial walls, and frequently with obliteration of the lumen of the vessels. Nowhere did this sclerosis assume the form of an isolated or separable tumor. Owing to the state in which I found the cord when I was enabled to examine it, I could not decide whether there existed accidental cavities in the middle of the central gray substance, analogous to those which characterize syringomyelia, or not. I am, however, rather inclined to admit the negative. Nor can I decide whether the cord change had been the cause, or only the result, of the lesions in the nerves. The single point to retain from this examination, it appears to me, is the co-existence of lesions pertaining both to the cord and to the peripheral nerves.



No. 1.—Hand in Morvan's disease. Hanot's case. After Charcot.



No. 2.—Hand in Scleroderma. After Charcot.

first involved, which is generally the right in men, the left in women. The joints of the hands, wrists, elbows, and even the shoulders, are sometimes affected with a dry, painless arthritis, and a condition analogous to the joint lesions of locomotor ataxia is developed. (Cut. No. 3.) In several instances a slightly subnormal temperature has been persistently recorded even during inflammatory features of the malady.

Aside from the analgesia already mentioned, and which seems primarily to affect the deeper structures, there are usually well-marked and various impairments of cutaneous sensation. Tactile, pressure and thermic sensations, severally or singly, may be diminished or obliterated, or intact. No mention is made of hyperæsthesia, but the persistence of tactile sense with the complete loss of thermic and painful impressions, is said to be rarely or never present. The extent of these perverted areas of sensation seldom passes above the upper extremities, though in some

It was on the same occasion pointed out by Debove that these lesions bore a striking resemblance to those of tabes. Charcot agreed perfectly with Morvan that the trouble is primarily in the cord, and that the trophic and sensory disturbances and the peripheral neuritis are all secondary to the central change, while others find an explanation of the cord lesion in the extremities and the pathological conditions found there. It is needless to say that as yet, no microbe has been brought forward as an etiological factor, and the ultimate cause of the disease is wrapped in the same mystery which pertains to other sclerotic affections of the cord. Even syphilis has not been accused of the paternity of this malady.

The diagnosis of the disease in recent cases must often be difficult, but when the condition has been of long standing it is probable that ordinary attention and care, with a knowledge of

its existence, will be quite sufficient for its recognition. A somewhat allied tropho-neurosis, localized and symmetrical scleroderma, may at first be confusing. When this condition is limited practically to the hands it gives rise to paresis, distortion and changes of a general nature in sensation, with atrophy, but there is no tendency to alteration, to the exfoliation of bone, and the peculiar analgesia above described as usual in Morvan's disease is wanting. The hand assumes a peculiar position with the digits extended, except at the metacarpo-phalangeal joints, which are flexed, and there is a tendency to over-extension in the middle joints of the fingers, particularly in the index. It is the arrangement produced by the action of the interosseous muscles, and is sometimes called the interosseous position. The skin is shiny, adherent to the bones, and the digits, atrophied *en masse*, behave like so many tapering rigid sticks. (Cut No. 2.) Associated with scleroderma is a peculiar mask-like expression of face, due to the implication of the facial integument and its adhesion to all bony prominences. This is so characteristic that, once recognized, it can scarcely be mistaken.

Another form of scleroderma, *ainhum*, occurring almost invariably in hot climates and in the dark-skinned races, may produce painless amputation of fingers and toes, but usually is limited to the feet, and it is the outer toe that is lost, as a rule. In this condition, the history of a slowly forming constriction by a cicatricial-like encircling band will prevent mistake.

In the anæsthetic forms of leprosy the nails, portions of the fingers or entire digits, may be lost without pain or local suffering. This insensibility is due to a peripheral neuritis set up by the bacillary infection upon which the disease depends. The condition is distinguished from Morvan's disease by the history of exposure to leprosy, and the disseminated leprosy nodules and patches on the integument of the body. The process, moreover, is the reverse of the loss of a finger from whitlow. An abrasion of the skin becomes an ulcer, grows deeper and wider, encircles the finger or envelops it completely, and finally causes its destruction or leads to its amputation by the surgeon.

Symmetrical gangrene or Raynaud's disease, so rare a condition that Billroth, a few years back, had never seen a case in his unparalleled field of observation, though sometimes causing a loss of fingers, presents a totally different picture from Morvan's disease. The digits affected, upon exposure to cold or in the morning, or after emotional excitement, present a blanched, shriveled, purplish or mottled appearance, with sensations of tingling and numbness, a loss of power and considerable discomfort. This passes away in a short time or may persist for hours, to recur under similar circumstances for months or years. Sub-

sequently, in destructive cases, the circulation, which is said to be inhibited by vaso-motor spasm, does not become even temporarily restored, and dry gangrene results, causing mummification of the members and finally their loss. There is no whitlow, no peculiar dissociation of cutaneous sensations, and no evidence of organic cord disturbance before or after death.

Some writers and observers, with Debove in the lead, assert that Morvan's disease is identical with syringomyelia, but this is most vigorously denied by Morvan himself, and he is supported by Charcot, Hanot and others. Nevertheless, there are many striking clinical resemblances. The asserted pathognomonic indication of syringomyelia is loss of painful sensations and inability to distinguish the temperature of any object brought into contact with the affected areas, while the sense of touch and tactile impressions remain essentially unimpaired. It is often associated with atrophy and paresis depending upon the distribution of the gliomatous infiltration about the central canal of the cord, which forms the anatomical basis of the condition and gives rise to the cavities within the cord and the dilatation of its central canal upon which the somewhat unwieldy name depends. Morvan insists that this particular dissociation of the cutaneous sensations is never found in the malady bearing his name, and the single post mortem observation already quoted does not correspond with the findings in cases of syringomyelia now on record. However, both Morvan's disease and syringomyelia number but few published complete instances, and it may be premature to insist upon their absolute differentiation. To an unprejudiced mind the prime point of importance is the fact that they both depend upon an irregularly distributed sclerosed condition of the cord. The variations outside of that seem to be a matter dependent only upon the position of this adventitious and unsystematized lesion as it affects nutrition, sensation and other myelic functions in proportion to their anatomical implication. Besides, all gradations between typical syringomyelia and typical Morvan's disease have been encountered. Both are instructive in demonstrating the location of sensory tracts in the cross section of the cord. The clinical and anatomical features of resemblance between tabes dorsalis and Morvan's disease have been already pointed out.

The course of the malady, as already often indicated, is extremely chronic, and as far as now known, practically beyond the influence of therapeutic intervention. In any given case it is to be expected that whitlows will occur from time to time, and of course the resulting mutilations are irreparable. In some instances, from this source, septicæmia has resulted and terminated life. Such measures as are directed against a low grade of inflammation in the cord are to be tried

and persevered with, and of course the general health is to be maintained. It would seem specially advisable that the hands receive scrupulous care and protection, as any traumatism or superficial abrasion may cause serious results or even lead to the loss of a finger.

The following case was brought to the writer's attention by Drs. Patrick and Harris, of this city, and of the Policlinic staff, in November, 1889, for an opinion regarding the nature of the joint disease in the left wrist (Cut 3), its similarity to the joint lesions of locomotor ataxia having given rise to discussion. At that time undue weight was attached to the scoliosis, which is marked (Cut 5), and implication of the cord or nerve roots was suspected. Further consideration of the case enables one to classify it with those recorded under the title of "Morvan's disease," every important symptom of which it presents, besides some additional features not incompatible with such diagnosis. Since that date the man has been casually seen at intervals, and nothing new has developed. Recently (January, 1891) a careful and thorough examination has been made and photographs obtained, from which cuts 3, 4 and 5 are reproduced.



No. 3.—From a photograph. Hand in Morvan's disease, showing joint lesion.

Case.—A. N. is an unmarried Swede of 35 years, who has been in this country since 1886. He now makes a fair living by taking orders about the city for a tobacco firm, in which occupation he does much walking, and is in the enjoyment of excellent physical health, confirmed by his general appearance. His family history presents, as far as he is informed, absolutely nothing in the way of a neurotic trace, and his parents both attained a very advanced age. As a child,

youth and young man he was always in good health, growing up in the country. He was engaged in farming until he came to America. Owing to the poverty of the family and the barrenness of the land, his life was one of extreme labor and hardship. His habits have been exceptionally good in all respects, and there is neither history nor trace of any venereal infection. He states that some ten years ago his back became crooked. Previous to that time he asserts that he was as straight as any one. About the same period he had a felon on the right ring finger, near the extremity on the palmar surface, which was excessively painful, kept him awake nights, was marked by high inflammation, great swelling, deep-seated suppuration, and which has left the finger stunted, with a deformed nail and shortened distal phalanx as shown in cut 4. Six years ago, after a bath in a lake on a cold day, he drove several miles in a cold wind, and in a day or two the left hand, wrist and arm became greatly swollen and very painful. He was sick, confined to his bed for a month, and remembers having severe chills and a high fever. The swelling in his wrist, where the main difficulty was located, never entirely subsided, and now presents the contour and deformity shown in Cut 3. There is no pain, heat, redness or tenderness about the greatly enlarged joint, though the carpus seems entirely disintegrated. Upon passive motion, which is but slight, there is roughness, grating and creaking in this articulation. The thumb is shortened as is the entire hand, and seems to articulate directly with the radius. Its extremity does not reach the first phalangeal joint of the index, as it should normally, by nearly an inch. There is a subluxation of the entire metacarpus forward, and spastic flexion of the fingers, which cannot be straightened voluntarily, and passively only by the employment of considerable force. The whole hand is diminished in thickness and width, and the fingers present a delicate appearance out of keeping with the rest of the extremity, which is rather muscular. The integument is somewhat smoother than usual, but these points may be due to the comparative disuse of the hand for heavy work. The extensor tendons of the fingers are salient on the back of the hand, and the intrinsic muscles seem wasted. Over the thumb he has good control, and the thenar eminence is full and round. Although the grasp of the hand is very much reduced, it is a useful member, capable of many complicated and fine manœuvres.

Three years ago he lost the end of the right index by what he describes as exactly the same process which ten years ago attacked and mutilated the right ring finger, with the very extraordinary exception that it was absolutely painless and not even marked by tenderness. He states that the finger was enormously swollen, very red and angry looking, finally discharging pus, and

that he himself picked out of it several fragments of bone. As shown in cut 4, it now presents but a small portion of the middle phalanx, the distal bone being completely absent, and the greatly deformed, horny, nipple-shaped nail is seated upon the end of the stump. The scar marking the opening through which the bones escaped is on the anterior surface, running to and involving the nail matrix.

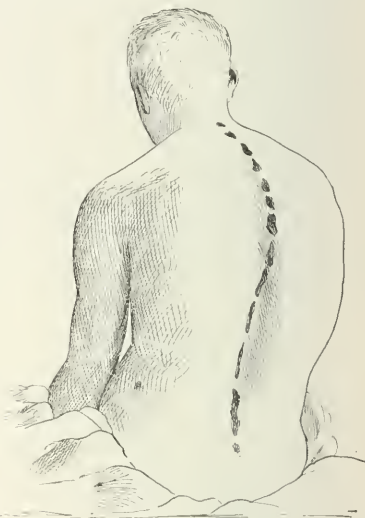


No. 4.—From a photograph. Hand in Morvan's disease, showing mutilation from whitlows.

Within that same year the middle finger of the right hand went through exactly the same programme and exhibits practically the same mutilation, though even more shortening is present. In both these fingers the joint between the first phalanges and the fragments of the second is preserved. The hands show no other trophic disturbances. The skin is elastic, soft, properly moist and of a good color, indicating no material change in the circulation of the parts, nor are they unpleasantly affected by cold weather.

Upon testing the sensibility of the hands it is found that on all parts the lightest touch with a flake of cotton wool is instantly perceived and accurately located. Indeed, he responds to this delicate test better than some individuals in a presumably normal state of health. The prick of a pin is equally well felt, but not as a painful sensation. He cannot detect the difference between a pin point and a blunt pencil, and this too when the pin is thrust sufficiently into the skin to remain standing there. When tested with similarly shaped hot and cold objects it is only with difficulty that he can properly make out their respective temperatures, and slight variations escape him entirely. These peculiar conditions are present in all portions of both hands and gradually fade

out upwards toward the elbows. There is no retardation whatever in the transmission of tactile impressions, and no subjective unnatural sensations. Palpation does not detect any tenderness over the nerves or thickening of their trunks. Co-ordination in the upper extremities, as tested by having the patient make exact movements of wide range while his eyes are closed, is quite normal, and electrical tests present no departure from the formula of health, even in the left hand. The muscular sense seems normal.



No. 5.—From a photograph. Showing scoliosis in Morvan's disease.

His gait is somewhat shambling and difficult to describe, being more of a peculiarity than anything else. There is no limp or dragging of the feet, and he walks in a straight line with great precision and firmness with his eyes closed. His body is plump, smooth and free from blemish of any sort, but the spinal column shows a compound curvature. The convexity, beginning in the upper dorsal vertebrae, is backwards and to the right, embracing most of the dorsal region, with a compensatory curve in the opposite direction in the lower dorsal and the lumbar spine. These curves are practically very pronounced exaggerations of the normal lateral deflections, and certainly not sufficient in themselves to implicate the cord, the lesion of which, indeed, cannot be below the first dorsal segment. They may explain the peculiar walk. There is no tenderness anywhere along the spine or any marked prominence of the spinous processes, and the column is ordinarily flexible throughout. In taking the photograph from which Cut 5 is made, the outline of these

processes was indicated by roughly marking them on the patient's back with iodine.

An examination of deep and superficial reflexes detects nothing abnormal, though the knee jerk is somewhat pronounced. There has never been any loss of control over the bladder and rectum, or difficulty of any sort with these organs. There is likewise nothing in the history suggestive of the lightning pains and crises of locomotor ataxia, nor girdle pains, nor hyperæsthesia of any character. The special senses and their respective organs are quite normal, the mind unaffected.

In summing up the case the analgesia in the hands, the dystrophy of the wrist-joint, the loss of fingers by whitlows, all point to the diagnosis of Morvan's disease and furnish its most salient characters. The retention of the tactile sense with the marked blunting of painful and thermic impressions, *per contra*, constitute the so-called pathognomonic indication of syringomyelia. This therefore is probably a mixed case. Such a number of speculations as to the exact location of the lesion in the cross section of the cord present themselves, that their discussion is idle. This much seems certain, the anterior horns and the pyramidal tracts are not implicated. The solution must be left to a post-mortem examination which, fortunately for the patient, appears to be a distant contingency.

167 Dearborn St., Chicago.

ABSCESS OF THE LUNG.

Read before the St. Louis Medical Society, December 14, 1890.

BY WILLIAM PORTER, M.D.,

PROFESSOR OF DISEASES OF THE THROAT AND CHEST IN THE ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS.

I have not thought to present an exhaustive essay upon this theme. The subject is interesting, its literature comparatively meagre, and it is closely related to the progress of that most aggressive department of our science—surgery; so that at least I may offer a few conclusions regarding it for your discussion.

Permit me at the outset, by way of definition, to say that it is not intended in this paper that the term abscess should apply to those accumulations of pus secreting cavities which are so often found in the later stages of phthisis, but only to the circumscribed suppurative which may arise independently of tubercular processes. The history of pulmonary abscess as given by the older writers is not very exact. They generally supposed that the condition was the result of delayed resolution of pneumonia, and that if the inflammation did not subside by the twenty-first day suppuration was sure to result. This latter proposition is not in accord with modern knowledge, yet we do find that abscess is often preceded by a pneumonia more or less severe. Stokes places abscess as the fifth and last stage of pneumonia,

while Leyden further recognizes a form of chronic abscess, occurring in chronic pneumonia, resembling the vomica of phthisis. While there may be many causes that predispose to pulmonary abscess, the positive causes aside from traumatism and foreign substances are easily placed in three classes: 1. Inflammation within the lung; 2. Perforation of pus cavities from without, as for instance, from the liver or pleural sac; 3. Embolism from right endocarditis or from the systemic veins. I believe also that we may sometimes have the first and third conditions combined. In croupous pneumonia, for instance, there is not only the local inflammation within the pulmonary structures, but often a marked depression of the vaso-motor system and of the motor ganglia of the heart. As a consequence there is in addition to the local pneumonia, a distension of the pulmonary vessels, oftentimes of the right ventricle itself, and greatly diminished circulatory force within the lung, conditions that must favor obstructions in either the bronchial or pulmonary system with destruction or infection of the tissues beyond the occluded point. Several cases of circumscribed abscess of the lung that I have examined closely gave no evidence of preëxisting pneumonia, while everything pointed to the hypothesis that the local lesion was the result of infarction from embolism.

A few points in the etiology of pulmonary abscess may be noticed in passing. The first is the statement found in most of our books upon the subject, that local inflammations in the lung cause the single abscess, while the results of embolism are multiple. Not always is the latter proposition correct. There certainly may be a blocking up of a single branch of a bronchial artery from embolism, sufficient to cut off all supply from that portion of the pulmonary structure beyond, causing gangrene; so also we may have a single branch of the pulmonary artery plugged by an infectious embolism, and consequent infarction and the disintegration of the surrounding structures.

A second thought closely associated with the etiology of pulmonary abscess is the fact that while occlusion of a bronchial artery is more likely to produce gangrene than an occlusion of a pulmonary branch, yet the latter conditions may also cause gangrene by the infarction and often consequent apoplexy, destroying the bronchial circulation and thus cutting off nutrition.

While then we may believe that an embolism in either the bronchial or pulmonary systems may produce gangrene, is it not also probable that an embolism in a bronchial branch may produce an abscess? The fragments from this form of endocardiac inflammation are known to have septic properties and to lead to suppurative infarctions. Why not in a small bronchial artery as well as elsewhere?

Again, we may ask the question as to the relation between a slowly resolving pneumonia and pulmonary abscess. Generally the influences of the local inflammation may be directly the cause of the consequent suppurative and we nearly always find the abscess at this site of the pneumonia. I believe it possible, however, for septic material to be carried from the lung itself, during the processes either of suppurative pneumonia or pulmonary tuberculosis, to pass from the pulmonary venous system through the left heart into the aortic and by way of the bronchial arteries back into the lung, and so producing infarction and infection. My reason for this hypothesis is the result of an autopsy in a case of croupous pneumonia, which had become suppurative, and the finding of a hæmorrhagic infarct and tissue degeneration in the opposite lung, in which were no post-mortem evidences of pneumonia.

Believing embolism, either of a bronchial or pulmonary arterial branch, to be a frequent cause of abscess in the lung, I would not underestimate the effect of local inflammation in the lung as a causative agent, for after all, most of the cases of abscess are the result of such conditions. This is what we might expect where restoration to the normal is delayed, especially after pneumonia. In the croupous type, and indeed, in the catarrhal also, the epithelial lining of the vesicle is destroyed, and if a suppurative process follows incomplete resolution it is not hard to understand how the pus-bathed vesicular wall, with impaired blood and nerve supply, may break down and the vesicles coalesce in abscess cavities.

The close parallelism which exists in the etiology of abscess and that of gangrene is also found in the study of the pathology. It is claimed by some that where the abscess is the result of embolism, that in the obstructed vessel are found specific micrococci having pathogenetic or pyrogenetic force. Ogston found microorganisms present in a large number of cases of abscess of the lung, and other observers have made the same statement. In one case I found large colonies of the bacillus tuberculosis, the abscess being undoubtedly tubercular, although the rest of the lung was not infected so far as could be determined. After the destructive tendency has been once established the conditions of progress do not vary much from what is known of abscesses in any soft tissue. The main difficulty in the diagnosis of pulmonary abscess is its oftentimes close resemblance to gangrene. It is fortunate for us that it is not necessary to establish positively the existence of one or the other, in reference to treatment. Whether it be a simple abscess, destructive gangrene, or, as often happens, gangrene with liquefaction, the indications for interference are generally plain enough.

I need not long detain the members of this

Society in discussing the diagnosis of abscess of the lung. If in addition to the physical symptoms of localized dullness and absence of vesicular murmur, we have the sudden appearance of large quantities of pus in the expectoration, an abscess may be suspected, especially if we find the presence of the elastic fibers of the alveoli, in addition to brownish red pigment and hæmatoid crystals. The absence or presence of these substances, as well as the history, will do much toward determining the differential diagnosis between abscess of the lung and pus cavities penetrating the lung from without.

Many writers have thought that the main physical symptom in making a diagnosis between extra-pulmonary cavities and those within the lung was the pectoral fremitus. Fremitus is often absent where the abscess is outside the pulmonary tissue, and increased over an intra-pulmonary cavity communicating with a bronchial tube, and partly filled with liquid, but in a paper by Fenger and Hollister in the *American Journal of Medical Sciences* for 1881, they concede the doctrine so far as consumptive cavities are concerned, but doubt whether it is true in cases of abscess or gangrenous cavities. In several cases that I have examined, where the diagnosis was afterwards confirmed by operation, the pectoral fremitus was greatly increased. The diagnosis between abscess and gangrene is not easily made so far as the physical symptoms are concerned, but the more marked depression, the horribly characteristic odor, not only of the sputum, but of the breath, and the greyish green expectoration of gangrene will not be easily forgotten. The lower layer of the sputum from gangrene, when allowed to stand, contains peculiar plug-like structures called "mycotic bronchial plugs" by Eichorst, from which Jaffe obtained a snow-white substance which turned blue when iodine was added, but which was neither albuminoid nor saccharine. He and Leyden gave this fungus the name of "leptothrix pulmonalis," resembling as it does the leptothrix buccalis. This cannot be estimated as an unailing evidence of gangrene, as the same fungus is found in the sputum of other diseases when allowed to putrefy.

When an abscess of the lung has been recognized, the manner of treatment is a worthy subject for discussion. Shall we, in the words applied to other conditions by the venerable Dr. Boislaniere, "maintain a masterful inactivity" or shall we formulate expectant measures for relief, or shall we go still further and undertake active surgical interference?

There are certain conditions which must be considered before these questions are definitely answered. It must be remembered that it is not impossible that a pus cavity with such free exit as exists in the lung may fully empty itself, and the walls contract and cicatrize. Much depends upon

the character of the general symptoms. If there is free expectoration, little interference with respiration, absence of pyrexia, and nearly normal pulse there may be no great danger in delay. These conditions are exceptional, however, and the temperature and the pulse, as well as the quantity of pus expectorated, point to rapid disintegration which calls for active treatment. The location of the abscess may have something to do with the question of treatment. Fortunately the direct danger from suppuration is not great. The large vessels and nerves are well to the median line, except in the upper part of the chest, and abscess in a lower lobe is comparatively easily reached. Just here let me say that contrary to the statements of many of our best authors, I have not found abscess of the upper lung even comparatively frequent, except in tuberculous cases. Nearly all of the cases of which I have notes were found in the lower lobe, and generally on the left side. I would not, however, place the experience of a single observer in opposition to the aggregated result of many.

The size of the abscess cavity may be an important consideration in determining the treatment, while we might be willing to wait the further development where the lesion is small and non-aggressive, yet we would not procrastinate in cases of opposite conditions. I believe it is a recognized principle in surgery that when there is pus it should, if possible, be evacuated. That this principle should apply to pus in the lung as well as elsewhere is a reasonable conclusion, not only theoretically, but as a deduction from practice. Even in cases where the abscess is small, where the general symptoms are mild and the local disintegration limited, it is a question as to whether the abscess should not be treated as it would be did it occur in any other part of the body within reach.

But where there is evidence of rapid breaking down of the lining structures, where the general symptoms of fever, restlessness and great depression are prominent, it seems to me that there can be little doubt as to what should be done, and done quickly, lest there be further infection from the pus cavity. The indications for operation may not, however, apply to tubercular cavities if there be general pulmonary infection.

Where there seems to be a demand for removal of the pus, we may ask with Fenger and Hollister, "Is the cavity so situated that we may get at it from the outside, and is the pleural cavity covering it obliterated by adhesions, so that we do not run any risk of causing a fetid pyo-pneumothorax by opening into the abscess and allowing the decomposed matter to enter the pleural cavity?"

The surgeon of to-day who removes ovaries from the abdomen and tumors from the brain, would scarcely hesitate to explore any part of the thorax did he have a reasonable prospect of good

result. Certainly the largest part of the lung below the mammary and axillary regions are within reach of the exploring needle, and if need be, the knife.

The second question is of serious import; for surely we would gain little did we but transfer the infectious pus producing process from the lung to the pleural sac. There is comfort in the thought that if the abscess be large and near the surface, there are often adhesions obliterating the pleural cavity and removing the danger in this direction. The authors above referred to assert that it is quite possible to determine the existence of adhesions by making an incision down to the intercostal muscles and passing a needle through both pleural walls. If the needle moves synchronously with the respirations, there are adhesions; if not the pleural walls are not adherent and the operation may be abandoned.

The above is a valuable suggestion but the conclusion may be modified. Under no circumstances would I abandon an operation for pus so situated, unless the life of the patient were in immediate peril. The fact of a non-adherent pleura may change the character of the operation, but the desired result should be obtained in the evacuation of the pus.

When the necessity for surgical treatment is apparent, there still may be a question as to the nature of the operation. Mosler, some twenty years ago, drained a superficial tubercular cavity through a silver tube. Fenger, a decade later, recommends a double soft rubber drainage tube, and both of these avoid resection of the rib. I believe that a better operation, especially where the abscess is large and low down, is to excise a large piece of the rib directly over the cavity and make a free opening into the pleural sac. This free opening into the serous chamber not only does away with the danger of subcutaneous emphysema but enables us to keep the pleural cavity thoroughly aseptic and lessens the difficulty spoken of by Fenger and Hollister, where there are no adhesions. If the cavity be large, the excision of the rib is better for the same reason that it is almost necessary empyema in that it permits a quicker and better closure of the abscess cavity. This is the method advocated by Ruenberg, of Sweden, and adopted by some of our best surgeons, although others object to the excision of the rib on account of possible periostitis and necrosis.

After the pleural sac has been freely opened a much smaller incision may be made into the pulmonary tissues. Within the lung, even at the base, are arteries and veins sufficient to cause considerable hæmorrhage, which may be difficult to control. Sutton warns against plunging the knife into the lung, and Fenger suggests a small opening made by a trocar gradually dilated by blunt instruments till large enough to admit a good sized soft rubber tube.

As the patient will necessarily remain in bed for a considerable time the opening should be made far back on the side to allow free drainage. The tube may be kept in place by a safety pin passed through its outer end and fastened to an adhesive strip. An absorbent compress and bandage will not only take up the pus which will continue to come away for some time, but will prevent the exit and entrance of air during respiration.

That the operation is justifiable is shown by the record. In 1881 Fenger and Hollister reported six cases, one of which, their own, recovered, and Ruenberg (*London Medical Record*, 1887) collated eleven cases of abscess. Two recovered and in three cases the diagnosis was doubtful. In the three fatal cases death could not be attributed to the surgical operation. In seventeen cases of gangrene collected from medical literature, where pneumotomy was performed, seven recovered more or less completely (*Annual of Medical Science*, 1888).

Permit me to offer an abstract of the history of two cases of gangrenous abscess of the lung seen during the last year.

Case 1.—Mrs. G., of North Eighteenth street, a young married lady of good family history. I first saw her in March, 1890, in consultation with her family physician, Dr. A. S. Barnes. The statement was made that she had not been well since the birth of her child some months before, and meanwhile she had had a severe attack of influenza. She was greatly reduced in strength and flesh. The symptoms and physical signs before described as belonging to abscess of the lung were present. The odor was the most offensive I ever encountered. The lesion was in the lower left lobe and the diagnosis was gangrenous abscess of the lung.

Case 2.—The other case is that of Mr. M., of St. Louis, the well known business man, of middle age, prominent in athletic circles. I was called in consultation with his attending physicians, Drs. Kuhn and Ludeking, in October of this year. The lesion was evidently not of so long standing as in the former case, and there was no history of a predisposing cause. It was also in the lower left lobe. In addition to the usual symptoms of abscess, there was the phenomenon of marked tympanitis at the site of the lesion, which would be relieved by severe coughing and leave an area of dulness well marked. It was concluded that the tympanitis was the result of the accumulation of air in a partly filled cavity, whereby there was distension until it was forced out by a violent contraction from coughing. There was the same kind of offensive odor, but not so great, and the same grayish-green expectoration. The diagnosis again was abscess of the lung with gangrene. In each case the operation advised above was done and the diagnosis verified. The cavities were kept thoroughly washed out with a

weak carbolic acid solution and in each case complete recovery ensued. The fetid expectoration ceased, the temperature became less, and the patients began to improve immediately after the evacuation of the pus.

These cases will be more fully reported elsewhere from a surgical standpoint, but I have referred to them here to substantiate the position taken in this paper: 1. That abscess of the lung presents signs and symptoms which may admit of a positive diagnosis. 2. That abscess of the lung may be the result of, or complicate gangrene from occlusion of a bronchial artery. 3. That operation is often demanded, and that the safest operation is the excision of a rib, giving free opportunity to prevent accumulation in the pleural sac. 4. That the result of such operations indicate the value of this comparatively new field for surgical investigation.

2530 Locust street.

CYSTOMA OF THE ARYTENOID REGION OF THE LARYNX, WITH THE REPORT OF A CASE.

Read before the Section of Laryngology of the Tenth International Medical Congress, Berlin, 1890.

BY W. E. CASSELBERRY, M.D.,
OF CHICAGO.

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS, AND OF LARYNGOLOGY AND RHINOLOGY, IN THE CHICAGO MEDICAL COLLEGE; LARYNGOLOGIST TO THE WESLEY HOSPITAL, ETC.

Under this title it is proper to include only cysts, or neoplasms of predominating cystic formation, which originate from the immediate vicinity of one or other arytenoid eminence, including the neighboring part of the inter-arytenoid fold and of the ary-epiglottic fold.

Recent literature has contained numerous reports of cystomata occurring elsewhere in the larynx. Schwartz, cited by Garel,¹ places the proportion of cysts among laryngeal neoplasms in general at 3 per cent., whilst Garel himself, out of a total of sixty cases, has met with cysts of the larynx sixteen times—an unusually large proportion of 25 per cent. Most of these were situated near the anterior third of the vocal cords, and not one was in the arytenoid region. Massei,² of Naples, found among his 200 cases of laryngeal neoplasms thirteen cysts—6.5 per cent.

Cohen, in "Sajous' Annual" for 1889, cites five cases reported during the year; one of the epiglottis by Huijsman, three of the vocal cord, respectively by G. Hunter Mackenzie, Desvervigne Hayward and Seifert, and one of the ventricular band by Audubert. None of the arytenoid region. Other cases of cyst of the vocal cord have

¹ "Cysts of the Larynx." *Revue de Laryngologie*, June, 1887; *The Jour. of Laryngology and Rhinology*, Vol. I, p. 254.

² "Sui neoplasmi laryngei." *Topografia del baglia*, 1885; *Internationales Centralblatt für Laryngologie, Rhinologie, etc.*, Jahrgang 11, S. 124.

recently been reported by Major¹ and Fischer;² of cyst of the epiglottis by Photiades³ and Larmuth;⁴ of the ventricular band by Hayward.⁵ Of cystoma of the arytenoid region we have been able to find recorded but a single case—that of Fundareno⁶ (*el Siglo Medico*, Madrid, April 21, 1889), although the monographs of Ulrich,⁸ Mouris⁹ and Cervisato,¹¹ in the original, have been inaccessible to us. Another case, however, probably of the same nature, which was operated upon by Garel, is reported by Moncage¹² under the name of "Fibrocytic Tumor of the Ary-epiglottic Fold."

The etiological factors in the development of cystoma in the arytenoid region do not differ from those of other laryngeal cysts, except that they seem capable of attaining a much larger size and of assuming more the character of a true neoplasm.

Pathological Histology.—Of cysts formed by the accumulation of substances within the cavities of preëxisting structures,¹³ the first and most prominent division is that of "retention cysts," which includes, for example, simple cysts arising from obstruction in the tubules of the kidney, the ducts of the liver, the lacteal channels, sebaceous cysts and mucous cysts. Laryngeal cysts, when simple, have all presented the characteristics of "mucous retention cysts," and are formed by the retention of the secretions in some one or more of the glands of the mucous membrane. The duct of a mucous gland, perhaps at some period of acute inflammation of the larynx, becomes obstructed by epithelial débris or inflammatory swelling, and soon the exit is obliterated. This doubtless occurs with considerable frequency, like with the sebaceous glands of the skin, but in most instances, the glandular function being at the same time wholly suppressed, the affected structure subsequently undergoes desiccation or exfoliation, or, if the function is maintained, the old orifice may be reopened or a new one forced, either by mere pressure or through the process of suppuration. In rarer instances, however, the accident of obstruction having happened, apparently, to a more vigorous gland, its secretion continues, is retained by a less yielding wall which is thereby distended to form a thin sac—a small and simple cyst, which is still devoid of any considerable formation of neoplastic matter. A case of this sort, situated on the ary epiglottic fold, we observed in 1882, under Prof. Chiari, at Prof. Schrötter's clinic, and we well remember the genial but emphatic phrase with which Chiari corrected a mistaken diagnosis—"Nein, Meine Herren, das ist eine Cyste."

Such a simple cyst of limited growth may remain quiescent, perhaps unnoticed, if favorably situated, for an indefinite period of time, or it may suddenly rupture and disappear. But otherwise, with certain individuals, eventually or at once, its presence excites an increased blood supply to the spot, which is utilized by perverted nature for a further production of endothelium, epithelium and intermediate connective tissue, forming a thick, fibrous wall sufficiently strong to resist the pressure of the constantly augmenting secretory contents. There is not now longer a mere distension of the structures of a preëxisting cavity, and its contents proceed not alone from the original gland formation, but its wall has a vascular supply and a growth of its own, the contents being elaborated by the entire lining membrane, which is apparently a product of the evolution of the original gland cells. Indeed, the transformation is into a veritable neoplasm which may very properly be dignified by the term cystoma.

Desvernine's¹⁴ case having died of other causes, he reported the pathological histology of the "cystoma of the vocal cord" as follows: "It was found to be a retention cyst of glandular origin, due to inflammation beginning in the epithelium of the gland and progressing excentrically to the para-glandular connective tissue, which has become condensed layer by layer, with a highly fused fibrous envelope." The cavity of this cystoma measured only 5 millimetres transversely, and compared with our immense cystoma of the arytenoid region presently to be described, it was minute, but showed nevertheless, in its wall, evidence of independent growth.

We have tabulated and appended the records of four cases, including two of our own, one of which, presenting noteworthy features, we will relate in detail:

Mrs. F. P., æt. 25 years, referred by Dr. N. S. Davis, Jr., July 13, 1888, relates that she has had a noticeable habit since childhood of throwing her head forward when swallowing as if a slight impediment to deglutition existed. No other symptoms referable to the throat were noticed until May 30, 1888, "Decoration Day," when a "cold" from exposure, culminated at once in a severe attack of acute pharyngitis and laryngitis. Her voice became husky, and the hoarseness continued to increase until, at the end of two weeks, she was completely aphonic. Deglutition, which was at first unimpaired, except as indicated solely by the habit above mentioned, gradually became more and more difficult until, in less than a month, swallowing was restricted to fluids. A sense of discomfort from the "fulness" in her throat, but no real pain, was complained of.

Status Præsens.—Emaciation and debility are pronounced. Respiration is labored, and lividity

¹ *Journal of Laryngol. and Rhinol.*, xi, 299.

² *Internationales Centralblatt für Laryngologie, etc.*, iv, 104.

³ *Internat. Centrbl. für Laryngol.*, etc., ii, 278.

⁴ *Internat. Centrbl. für Laryngol.*, etc., vi, 255.

⁵ "Cyst of Ventricular Band." *Lancet*, September 15, 1888.

⁶ *The Journal of Laryngologie and Rhinologie*, Vol. iii, p. 299.

⁷ *Feber Kehlkopfstein*, Würzburg, Becker, 1887.

⁸ *La France Médicale*, No. 87, 1886.

⁹ *Lo Spérimentale*, Heft. 1 and 2, 1886.

¹⁰ *Internat. Centrbl. für Laryngol.*, vi, 608.

¹¹ *Green, Pathology and Morbid Anatomy*.

¹⁴ *Sigous' Annual*, 1889, G. 17.

of the lips and other signs of impaired oxygenation of the blood are present. Laryngoscopic examination discloses an immense tumor, fully 4 centimetres in diameter, which occupies the entire top of the larynx, encroaches upon the œsophageal orifice and forces the epiglottis forward upon the tongue, nearly burying it from sight. (Fig. 1.)

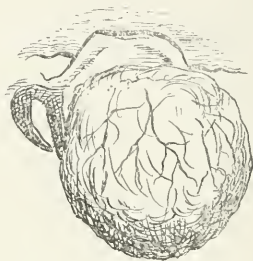


FIG. 1.—Cystoma of the Larynx.

The vocal cords are hidden from view, but by drawing the tumor upwards and to the left, a glimpse of a part of the right vocal cord and the right arytenoid eminence is obtainable. The tumor is globular in shape, of fibrous appearance, hard and dense to the touch, but suggestive here and there of cystic contents, and presented on its surface ramifying vessels of considerable size.

The paroxysms of dyspnoea occasioned by the examination were so severe that one hesitated to undertake any sort of operative treatment, even for diagnostic purposes, without preliminary tracheotomy, which was therefore performed on July 22, 1888. Present, assisting, were Dr. W. W. Jaggard, Dr. F. S. Johnson, and Dr. McCullom. Ether anaesthesia was employed, and herein lies a grave point of danger in such cases. A respiratory passage had been maintained, doubtless by aid of the throat muscles, serving to keep the neoplasm partly aside. With the earliest suspension of muscular action by the ether, the pharyngeal muscles collapsed upon the tumor and caused the latter to act as a complete stopper to the larynx, whereupon respiration ceased and the face blackened. In this condition of complete asphyxia the trachea was hastily opened, the tube inserted, and the patient then resuscitated by artificial respiration.

After a few days I punctured the neoplasm by means of a large curved needle attached to a hypodermic syringe, and withdrew about 8 ccm. of a light olive-colored, viscid fluid, which was sufficiently albuminous to completely solidify by boiling, and which showed under the microscope innumerable leucocytes. By the following day the tumor had regained nearly its original size through reaccumulation of the contents. A free opening was now made which permitted the es-

cape of fluid, and also of shreddy material too thick to flow through the needle. The collapsed wall was then drawn forcibly upward by a curved vulsellum, when it could be seen to be attached by a rather broad base over the whole of the left arytenoid eminence, including the adjoining end of the ventricular band and parts of the interarytenoid and ary-epiglottic folds. It was separated from its attachments and removed in several pieces by the use of a curved galvano-cautery snare, or galvano-cautery knife electrode, and long angular scissors.

The wall of the cyst varied from 1 to 3 millimetres in thickness and exhibited a rather fibrous aspect. Fragments of it were submitted for microscopical examination to Dr. Frank S. Johnson, Professor of Pathology in the Chicago Medical College, who reported the neoplasm, from the presence in spots of closely aggregated, small, round cells, to be probably sarcomatous—a cystic sarcoma. This opinion, somewhat doubtfully expressed at the time, is rendered still more doubtful by the subsequent favorable history of the case, and from a recent reinspection of the slides, jointly, by Dr. Johnson and myself, he submits the following report, with which I concur:

The tissue is cellular and quite vascular. The stroma is chiefly fibrous and is dotted with small, round and slightly angular cells, which in certain areas are very thickly aggregated and present the appearance somewhat of sarcoma, but they constitute, doubtless, only a young connective tissue. A few pavement-like cells on the edge of the section may possibly represent an endothelium.

In view of the possible sarcomatous nature of the cystoma the question of partial resection of the larynx was now considered, but after due consideration, the patient expressed herself as unwilling to submit to the operation without assurance of absolute necessity greater than we could give.

The larynx was not located deeply in the throat, and it seemed possible to destroy the remaining shreds of the growth and the whole seat of attachment by operating through the mouth with vulsellum forceps, scissors and galvano-cautery. This was the method adopted, but it required repeated operations, at intervals of two to three weeks, to thoroughly accomplish the result, for, notwithstanding the use of cocaine in spray and solution gradually advanced to the strength of 30 per cent., after the first two or three cauterizations or clippings, hæmorrhage and gagging interfered with further laryngoscopic observation.

The cartilages of Wisberg and of Santorini were removed, and the upper neighboring parts of the ary-epiglottic fold, interarytenoid fold, and ventricular band were destroyed. The arytenoid cartilage remains, but it is partially ankylosed, which impairs somewhat the mobility of the left vocal cord. The cords are otherwise intact and the voice is very good. (Fig. 2.)

Two years have passed, and there is no sign of

recurrence. The tracheotomy tube, having been worn corked up for a time, was withdrawn at the end of a year. Healing of the opening was facilitated by occasional freshening of the edges by the canterly. It is now perfectly closed.

Annotations in Retrospect.—Certain queries arise concerning the treatment adopted, and first, Was tracheotomy necessary? Fundareno's¹⁵ case terminated successfully without it. "A soft tumor of the size and shape of a walnut blocked up the posterior half of the laryngeal cavity. An incision was made into the cyst with the laryngeal knife of Bruns, when a clear fluid mixed with granular and fatty matter escaped. Then it was seen to be attached over the right arytenoid cartilage. The cystic membrane was removed and the place of attachment canterized with chromic acid."



FIG. 2.—After operation.

Should an anæsthetic have been administered? Death therefrom was certainly averted only by prompt albeit deliberate action. But the American surgeon does not contemplate with equanimity the operation of tracheotomy without anæsthesia. No little surprise was occasioned by the discussion which recently waged in France relating to tracheotomy with or without an anæsthetic in cases of membranous croup, in which condition, in America, it is always administered, notwithstanding dyspnoea, unless the patient is already moribund.

But these are not wholly analogous cases, and another time, with a tumor similarly situated, requiring quasi-voluntary muscular action to maintain patency of the respiratory passages, I would make the tracheotomy with only local anæsthesia by ether spray to the skin and cocaine spray to deeper layers as reached, aided perhaps by hypodermics of cocaine.

Concerning the duration of development of the cystoma, it seems more reasonable to assume that a small cyst, quiescent, or of very slow growth, had existed for years, as indicated by the slight disability in deglutition, and that this was stimulated to active growth by the acute inflammation of the surrounding parts contracted on "Decoration Day," rather than to suppose that the

TABLE OF CASES OF CYST OF THE ARYENOID REGION OF THE LARYNX.

No. Date.	Operator or Reference.	Sex.	Age.	Previous Duration of Symptoms.	Situation and Extent.	Points of Attachment.	Pathological Nature.	Treatment.	Result.
1 1882	Chiari and Casselberry, Schröder's Vienna Clinic, Sec. in Larynx, Tenth Int'l Congress.	Male.	30	None	Right ary-epiglottic fold near the arytenoid, size of small split pea.	Same	Simple retention cyst.	None	None.
2 1889	Moncagé and Garel, "Internat. Centralb. f. Larynx, Rhinol." etc., Bd. vi, S. 668.	...	...	...	Ary-epiglottic fold.	Same	Fibrocystic tumor	Removal by galvanocaut. snare.	Presumably cured.
3 1889	Fundareno d. Seglio Medico, Apr. 21, Jour. of Larynx and Rhin., Vol. iii, 1889.	Male.	30	...	Right arytenoid region, size of a walnut, covering two-thirds of larynx.	Mucous membrane over right arytenoid.	Cyst.	Evacuated, cystic memb. removed base cauterized with chromic acid.	Presumably cured.
4 1890	Casselberry, Tenth Int'l Med. Congress, Sec. in Laryngology, Berlin, 1890.	Female.	30	Six weeks.	Left arytenoid region, size of large black walnut, covered all but anterior angle of glottis; seriously impaired deglutition and respiration.	Mucous and submucous tissues over left arytenoid region, ary-epiglottic fold & ventricular band.	Cystoma.	Evacuated, removed by vulsellæ, scissors and bistoury; thorough cauterization of base by galvanocautery.	Cured, remains well after 2½ years.

In our own case the tumor was larger, firmer, the diagnosis at first uncertain, whilst the dyspnoea demanded immediate relief and rendered hazardous any attempt at operating *per vias naturales* without an independent artificial opening for respiration. And subsequently, by reason of the ready induction of spasm of the glottis, it would have been quite impossible, without tracheotomy, to have effected that thorough destruction of the seat of attachment, so desirable on account of the possible sarcomatous nature of the neoplasm.

neoplasm had been wholly formed in the short period of six weeks, which intervened between the eventful "Decoration Day" and the time of our first examination.

The suspicion first entertained of a sarcomatous element in the case, we believe to have been reasonably excluded by the subsequent course of events, and that we had to deal merely with an immense cystoma which originated in a simple mucous retention cyst. An analytical record of cases is given.

¹⁵ Loc. cit.

MEDICO-LEGAL NOTES.

BY HENRY A. RILEY, ESQ.,
OF NEW YORK.

HYPNOTISM.

The subject of hypnotism continues to attract great attention, both in the public journals and at the meetings of learned societies. At a recent meeting of the Medico-Legal Society of New York a committee made a preliminary report, and this was, at a later meeting, discussed by the members.

Dr. E. P. Thwing said: The trance sleep is not a disease, although neurotic conditions predispose to it. Nor does sensitiveness to hypnotic influence imply small brain power. Hypnotism is not necessarily productive of harm, and in many cases in medical practice has proved valuable.

There was a decided difference of opinion as to the value and propriety of public exhibitions of hypnotism. Several such exhibitions have been given in this city, some of which have attracted attention from physicians as well as from the curious and investigating public.

Dr. Paul Gibier, the well-known head of the Pasteur Institute, approved of public exhibitions in so far as they served to bring to light new truths of interest to science. It will be of interest to recall the fact that the city authorities of Cincinnati, at the suggestion of Dr. Prendergast, the Health Officer, have prohibited all public exhibitions in that city.

TAKING AWAY THE CHARTER OF A MEDICAL COLLEGE.

A bill is now pending in the New Jersey Legislature to annul the charter of the Medical and Surgical College of the State of New Jersey. The measure has already passed the Senate, and has been favorably reported in the house. It was introduced at the request of the Hudson County Medical Society, which recently adopted resolutions to the effect that "several members of the faculty are either incompetent to deliver lectures on the subjects assigned them, or are graduates of disreputable or fraudulent medical colleges; that the facilities for instruction are inadequate; that the requirements of the charter of the College are far below the minimum requirements of medical colleges adopted and demanded by all the medical authorities at the present time."

The State Board of Medical Examiners is urging the passage of the bill.

STATE REGULATION OF VICE.

The New York Committee for the Prevention of State Regulation of Vice met recently and adopted a protest against the passage of a bill, pending in the New York Legislature, to lower the age of consent on the part of young girls to their own ruin from sixteen to thirteen years.

The committee also passed a resolution in favor of the appointment of women matrons at the police station-houses in New York City.

It is pleasant to state that in all probability both of these recommendations will be effective, and that the Legislature will hardly dare to lower the age of consent, while there seems to be no special opposition to the police matron law.

CREMATION AND THE LAW.

In England very recently three prominent men have been cremated—Baron Huddleston, Mr. Charles Kinglake, and the Duke of Bedford—and some of the papers are discussing the legality of this method of disposing of the dead. The decisions seem, however, to have settled the point. In a very elaborate decision some few years ago, by Justice Stephen, it was held that it was not a misdemeanor to burn a body unless it was so done as to create a public nuisance, or done in order to prevent the coroner holding an inquest on the body.

In this country there has never been any serious discussion of the question in the courts, as the legality of cremation seems to have been conceded. It does not appear, however, that the custom of burning the dead is becoming very much observed.

PRACTICING WITHOUT A DIPLOMA.

The New York County Medical Society frequently brings into court persons practicing medicine who have no legal right to do so, not having diplomas; and the convictions are quite numerous. In a recent case the offender had been before the court once before, but claimed that his lawyer had given him a paper which purported to be a decision reversing the former conviction. The lawyer was a shyster, who is now serving a term in the State Prison for forging a divorce decree. The Judge said that it was simply a case of a medical shark falling into the hands of two legal sharks, and sentenced the bogus doctor to imprisonment for 100 days in the penitentiary, together with a fine of \$100.

BOARDS OF HEALTH MUST PAY FOR MISTAKES.

In Massachusetts it was recently decided that the law permitted Boards of Health to kill horses infected with the glanders, but that it did not free them from liability if they killed animals which did not, in fact, have the disease. In such a case they would be liable in damages.

INFECTED MEAT IN NEW YORK.

The amount of bad meat, fish and vegetables seized each year in New York City by the officials of the Board of Health, would surprise almost every reader. According to the report just prepared there was confiscated 1,200,000 pounds of tainted meat and fish, and 1,056,000 pounds of bad fruit and vegetables. The milk inspectors

examined 97,000 samples of milk, and caused 299 arrests for milk adulteration. Milk was found for sale in over 6,000 stores in the city.

HOW TO RUN A SLAUGHTER-HOUSE.

The following is the direction given in a Michigan suit for the proper management of a slaughter-house: "Complainants are entitled to a decree requiring defendant to remove from his premises every day all manure, blood, offal, hair and other refuse of his establishment, in covered garbage wagons, such as are in use by the Board of Public Works in the city of Detroit, or in other wagons that will effectively avoid the spread of offensive odors; to thoroughly clean, cleanse and disinfect his premises daily; to provide sufficient pens for the hogs in store so that they shall not be crowded and rendered noisy and quarrelsome by discomfort while in confinement, and to use such other precautions as are necessary to render his place of business clean and wholesome."

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

TREATMENT OF TYPHOID FEVER WITH CHLOROFORM.—DR. STEPP, of Nürnberg, contributes to the *Münchener Med. Wochenschr.* an account of the excellent results he has obtained in the treatment of typhoid fever with chloroform. The drug is given in 5 minim doses thrice daily. He claims for the medication a direct and favorable influence upon the course of the disease; the tongue becomes moist, somnolence and delirium disappear, and immediate improvement is noted in the general condition. The temperature is usually lessened in from eight to ten days, relapses occasionally occurred, and he notes the death of one patient. The fever stage averaged, in severe cases, nineteen days; in lighter forms, eight days.

The writer thinks that the chloroform is absorbed directly into the blood, where it exerts a specific anti-bacterial effect. He has never observed unpleasant consequences resulting from the medication.

PILOCARPIN IN CHRONIC RHEUMATISM.—DR. HOCHHOLT, physician to the Pest Hospital (*Semaine Médical*, July 2, 1890), reports excellent results in chronic rheumatism, accompanied by effusion into the joints and some thickening, with pilocarpin. Coleman Korda, a confrère of his, had observed similar good results ten years before. Korda attributed the favorable action of the drug to its power of increasing tissue change, aiding elimination and thus favoring the absorption of inflammatory exudates. It is to this property that the drug owes its value in ophthalmol-

ogy and otology. Pilocarpin is of added value from the fact that we have no remedies useful in the chronic joint affections of rheumatism, the ordinary drugs, salicylates, antipyrin, etc., being useless in these conditions.

Physiology.

THE PENIS PERCUSSION REFLEX.—We learn with each year a few additional objective signs of disease, and with these come increased precision in diagnosis. It is but a few years since the significance of absence or variation of the patellar tendon reflex has been understood, though the phenomenon of contraction of the thigh muscles when the tendon was struck, must have been known to the school boys of ancient Rome. Since the diagnostic value of alterations of this reflex have been learned, many others have been found and studied. The last is announced by DR. C. H. HUGHES (*Alienist and Neurologist*, January, 1891), under the term "virile reflex," because if it is impaired or lost, in a person with a healthy spinal cord, it indicates a loss or abeyance of the sexual function. The reflex is produced by grasping the penis by the foreskin, between the index finger and thumb, and pulling the organ firmly toward the umbilicus, at the same time allowing the ring and little fingers of the same hand to rest upon the dorsum of the organ. If, while in this condition, the organ is struck sharply a distinct retraction of the bulbo-cavernous portion will be felt. Dr. Hughes says that it is often, but by no means always, found in sympathy with the other reflexes of the lumbo-dorsal spine. He has found it absent in old men who have acknowledged complete virile incapacity, and also lessened in neurasthenia and masturbation.

If it shall appear upon further investigation that the claims made by Dr. Hughes are correct, we certainly have a valuable diagnostic sign in a considerable number of medico-legal cases. It is a common thing for men, especially those advanced in years, if accused of sexual crimes, to plead total impotency. So far as the examination of the medical jurist is concerned, he can only report as to the conformation of the organs. The virile power is beyond his investigation. Then, too, it ought to prove of differential diagnostic value in forms of psychical impotency. We sincerely hope that the sign may prove to be true, as it will then prevent the somewhat unfortunate *contretemps* of a man being convicted of bastardy, and his wife obtaining a divorce on the ground of impotency, at the same term of court.

RESULTS OF SECTION OF THE CORPUS CALLOSUM.—KORÁNYI (*Pflüger's Arch.*, xlvii, p. 35), in Golz's laboratory in Strasburg, has divided the corpus callosum in a number of dogs, and finds that, provided other parts of the brain be not injured, especially the cerebral hemispheres, there

are no symptoms whatever resulting from the lesion. Both halves of the body appear to retain their normal motor and sensory functions, and appear to act in unison together.

Obstetrics and Diseases of Women.

DANGER OF VAGINAL INJECTIONS.—DR. ROULIN (*Journal de Médecine de Paris*, December 14, 1890), describes three cases where women suffered from severe symptoms after the use of vaginal injections, administered by themselves when in a sitting position. The first used the douche can, fixing it rather high on the wall. Immediately after the injection violent hypogastric and lumbar pains set in, followed by vertigo and vomiting. The abdomen was not sensitive on pressure, though pain was intense. Metrorrhagia followed and lasted for two or three days, but the pain ceased in twenty-four hours. The second case was almost precisely similar, excepting that the patient had used a hand syringe, and the symptoms were less severe. The third case also used a hand syringe. She felt a pain like a blow across the belly, but continued the injection; when it was ended lumbar and abdominal pains came on severely, with rigors and chattering of the teeth, but no vomiting. The symptoms recurred on the next day when the patient got up, but on the third day she felt well and free from pain. Dr. Roulin employs laudanum enemata for these cases. The cause of the pain is obscure. The fluid rushing into the uterine cavity may act as a foreign body and set up conditions sometimes provoked by catheterism. The admission of air into the uterine sinuses has been, according to Depaul, the cause of sudden death during douching of the cervix to produce abortion. Dr. Roulin believes that water may have entered in his cases. He insists that patients must be taught how to administer vaginal injections to themselves. The patient must lie on her back and only introduce the nozzle for a short distance; nor must she play too strong a jet of fluid into the vagina.—*British Medical Journal*.

Bacteriology.

VIRULENCE OF TUBERCLE BACILLUS.—PROFESSOR A. MAFFUCCI, in a preliminary communication (*Centralbl. für allgemeine Pathologie u. pathologische Anatomie*, Band i, No. 26, December 15, 1890) concludes that all Hammerschlag's experiments with the alcoholic extracts of pure cultivations of tubercle bacillus cannot, in face of the clinical nature of tuberculous disease in the human subject, be looked upon as conclusive. There is, however, he considers, some poison developed by the tubercle bacillus, especially in older growths, which by its action produces marasmus, apparently by interfering with the nutrition of the cellular elements of the body. What relation the bacilli and their products bear to inflammation, fever, marasmus and degeneration,

he is not prepared to state; but the experiments that he has recently made confirm those that he published in 1879, in which he found that the tubercle bacillus from a mammalian, when injected into a laying fowl, caused the embryos from the eggs to die with all the characteristic features of a marasmus. He has observed the same thing in the hens themselves when they have been inoculated with "perlsucht," and even with active cultivations of the tubercle bacillus from mammalian animals; whilst, from clinical observation, he is also of opinion that the caseous masses in tuberculous individuals are the exciting cause of the marasmus that is so frequently met with in patients affected with tuberculous glands, bones or joints, and in cases of tuberculous phthisis. He has now carried on a series of experiments on guinea pigs with pure cultivations of tubercle bacillus (from mammalian animals) which had been allowed to grow for one, two, three or six months on consolidated blood serum to which glycerine had been added, or on fluid blood serum alone. The culture was then sterilized at a temperature of 65° to 70° C., continued for one or two hours, or by intermittent sterilization. Cultures of more than six months' standing were found to be already sterile, and were therefore not specially treated. Any of these sterilized cultures introduced into guinea pigs induced, in from fourteen days to six months, marked wasting, but no tubercle bacilli could be found by histological examination or by cultivation. There was usually congestion of the lung and of the kidney, the splenic follicles were wasted, the pulp was also atrophied, but was usually somewhat congested, and considerable quantities of pigment might be observed in the pulp cells, and even lying free outside them. The atrophy, however, was almost invariably well-marked, and the liver cells were usually considerably wasted. He concludes that this toxic substance is not destroyed in the body of an animal which dies from marasmus, and he holds that these observations must have a very important bearing on the ultimate success or failure of Koch's treatment.—*British Medical Journal*.

BACTERIA IN THE AIR.—PROF. ROSTER of the Istituto degli Studi Superiori, of Florence, has recently examined the air of the island of Elba, and comes to the following important and practical conclusions: 1. The air of an island, even when of considerable size, contains fewer bacteria than the mainland. 2. When the wind is off the sea the number of bacteria is enormously decreased. 3. A comparatively narrow arm of the sea is sufficient to purify the air blowing over it. 4. Atmospheric bacteria increase in proportion to the velocity of the wind. 5. Rain is the most important factor in purifying air of its contained germs.

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SATURDAY, MARCH 7, 1891.

THE LESSON OF THE FILARIA SANGUINIS
HOMINIS.

The greatest achievements of medicine in the past have been in clinical observation, those of the present are in biological investigation. The uncertain methods of the former are reinforced by the verdict of a jury of the profession at large; the positive decisions of the latter must be confirmed by the same method after they are handed down by the expert. No more brilliant study of parasitism is to be found in the annals of biology than that which this little hæmatozoan furnished.

DR. RUDOLPH MATAS in the January number of the *New Orleans Medical and Surgical Journal*, cites a case of parasitic chylocele, which illustrates the rational treatment of this disease, following a positive diagnosis and relative indications dependant on an exact knowledge of the life history of the filaria. This article is a model of medical literature, and it should be carefully studied by every physician on the Gulf coast. It is another witness to the richness of the New Orleans clinic in tropical and sub-tropical diseases, and promises for that city an opportunity for medical study and clinical investigation of these diseases, without the dangers which attend a residence in the tropics.

The relation of the filaria to chyluria was first noticed by WACHERER in Bahia in 1866, but DEMARGUAY had found and described the same wormlike form in the chylous fluid from a hydrocele in 1863. This little worm, however, did not escape the penetrating eye of DR. J. H. SALISBURY, who, in 1868, named it "trichina

cystica." LEWIS, of Calcutta, first found the embryonic worm in the circulating blood, and the mature and living male and female in a piece of scrotum amputated for elephantiasis. The most interesting and brilliant chapter in the history of our little animal is associated with the name of PATRICK MANSON. It was long known that the embryonic and a sexual filaria lived equally well in the blood and lymph, and that their presence there depended upon a mature and sexual female of comparatively prodigious size confined in some lymph space, usually in the scrotum. None of the myriads of embryos ever became sexual while in the original host. The sexual liberator was supposed to lie in some intermediary host. It remained for BANCROFT, of Australia, to suggest (1877), and MANSON, of China, to prove (1881), that the mosquito is the sexual liberator of the filaria sanguinis hominis.

The adult sexual filaria has never been found outside the lymph glands or lymph sacs. There the female is coiled up and her uteri and vagina are crowded with embryos in various stages of development. During the night the free embryos are found in enormous numbers in the blood of the patient; but during the day the blood is free from them, as MANSON first proved. This periodicity points to a remarkable adaptation when we learn that the nocturnal mosquito dips her proboscis into the circulating blood and fills her stomach with a drop of blood containing sometimes one hundred and twenty embryo filariæ. Some of these are carried, directly or indirectly, to a second host to become sexually mature worms, and give rise to all the symptoms of invasion with the embryos. We can not recount all the interesting and astonishing features of this rare parasite. It may be compared with the filaria of the dog, which does become sexually mature in the primary host, and with the plasmodium malarie, which shows a parallel periodicity.

In the United States, the appearance of the filaria has been studied by three careful investigators, GUITERAS,¹ MAXIN,² and DR. SAUSURE,³ and although the climate of Southern United States is barely subtropical, a very astonishing number of native cases have been presented, mostly from Charleston. The pathology and clinical history of the chylocele of the tunica

¹ Medical News, April, 1886.² Annals of Surgery, 1888.³ Medical News, 1890.

vaginalis testis has been first fully demonstrated by MASTIN, and we are proud to say his demonstration has borne fruit in the successful treatment of a case by DR. MATAS, to whom we are indebted for the opportunity of calling attention to this subject again. We predict that imported cases will be found in the Northern States, and trust that every case of chyluria, chylocele, elephantiasis, suppurating multiple lymphadenitis, chylo-thorax and chylous ascites will receive careful clinical examination for this parasite.

This is a typical obligate parasite and, as might be predicted, it is not destructive to its host. Patients live for many years under proper conditions, and their chief source of danger is from infection with more destructive parasites, such as the erysipelas coccus and the pyogenic bacteria. Recovery from the uncomplicated disease is the rule when the patient emigrates to a cold climate, or, otherwise, when the parent worm is removed by operation or dies from natural or accidental causes. The prognosis without emigration depends largely on the number of sexual females in the host and the risk of wound diseases.

The remarkable effect of a cold climate on this parasite, resulting in the death of the pregnant female and consequent disappearance of the disease, furnishes an analogy which should be remembered, not only in its narrow application to malaria, but to all parasitic diseases. For, however uniform the conditions of human vitality seem to us to be at all times and in all places, we have indubitable evidence here of such vital changes as result in the death of an otherwise permanent parasite. In these times of vigorous therapy, let not so important a suggestion go unnoticed, but let it furnish a theme for meditation, for hypothesis, for investigation, and for scientific deduction.

FUNERAL REFORM. DANGERS OF DECORATION DAY.

The *Lancet* inveighs against the practice of so conducting funerals as to endanger human lives. The past winter has been unusually chilly and cold in England, and the editor of the *Lancet* has had occasion to notice not a few distressful consequences due to the standing of participants at funeral exercises with their heads bared. In fine weather this mark of respect may very well be

observed, but in the winter time it is too liable to be attended with grave risks to be looked upon with favor by medical men. The editor commends the shortening of the out-door services in cold and stormy weather, as has been voluntarily undertaken by some of the clergy, and the keeping of the hat on the head except for a moment or more at a time when the word "Amen" after prayer, or some like passage, is pronounced by the clergyman. Standing with the head bared is indeed a seemly token of respect to the dead, but a due regard for the living teaches us that a reform in this particular may properly be expected before this century closes. The dangers of Decoration Day deserve consideration here. We hold that it is unfortunate that that holiday has been located so early in the year, while yet the soil of our cemeteries is saturated with damp and unoxidized deposits of a winter's harvest of snow and frost, and mould and vegetable decay. We have seen too many instances of injury to health and of death even, caused by that kind of filiality and loyalty which leads the families of departed patriots and others to decorate the last resting-places of their loved ones, to be admirers of the practice from the standpoint of health preservation. This act of respect has, in not a few instances, been the occasion of a second visit, soon after, to the cemetery, for the purpose of closing up a newly made grave due to Decoration Day exposures.

VENESECTION.

It is quite a noteworthy coincidence that the subject of venesection has been the theme of extended and favorable comment, within the past fortnight or so, in London, Edinburgh, and in this country. Were it not for the very evident modification of the remarks put forth the critic of to-day would fain be tempted to regard the flight of the past half century as a dream—that the heroic times of blood-letting were but as yesterday. And yet progress in medicine is but an awakening—after a variable lapse of time—to a due appreciation and proper regard of means. If, in a particular measure, it requires fifty years of slumber or ostracism to insure in it that which is truly good and for the public weal, we had best view it through our optimistic glasses, and complacently await the advent of the next *time-tried* expedient. Experience teaches us—and very

plainly in this case of venesection—that it is useless to look for any *one* means by which to combat the whole diversified army of disease. This has been clearly illustrated by history, notably of the last one hundred years. Enthusiasm—professional enthusiasm—in the direction of meteoric medicine, if we may be allowed the expression, is commendable to a degree, but yet is inevitably disastrous. This was certainly the result with venesection. It was relegated to such oblivion that the student of medicine during the past two decades at least, has scarce heard it mentioned, and never observed its use. And so it has been—with few exceptions—throughout the entire field of medical research. History repeats itself almost daily upon this point.

When DR. PYE-SMITH read his paper, entitled: "The Therapeutical Value of Venesection; its Indications and its Limits," before the Royal Medical and Chirurgical Society, it is interesting to note how conservative, not only the title and contents of DR. PYE-SMITH's contribution, but its reception by the Society and the discussion which followed the paper. Some of the foremost medical men of England came forward with their opinions—well-washed by the ever-lapping waves of Time—and humbly laid them down at the feet of Record. O Shades of fifty years ago! O Whilom Hero of the Lance, pray heed e'en this faint justification! Contumely hides her scrawny lines and a newer light—and brighter—bids fair to shine!

Physicians and Surgeons alike, at this meeting, expressed themselves in favor of venesection in those cases wherein depletion was clearly indicated, viz., and more particularly, first, in cyanosis with distention of the right side of the heart, whether from pulmonary or some other obstacle to the circulation; secondly, the intense pain of aortic aneurism; and thirdly, uræmic and prolonged epileptic convulsions.

DR. PYE-SMITH justifies himself fully—which the discussion bears out—by the statement that he felt the time had come when it could be shown that, if rightly used, venesection was a valuable remedy.

ANOTHER DEATH FROM CHLOROFORM.

Another death under chloroform recently occurred at Indianapolis. A physician, without professional assistance, exhibited the anæsthetic

to a patient previous to the opening of a mammary abscess. Death came quickly, and before the operation was commenced.

The *Indiana Medical Journal* editorially criticises the case, with the following conclusions:

1. That the administration of an anæsthetic by a physician for any purpose whatever, except in obstetrics and cases of emergency, without the presence of another physician, when such can be procured, is to be condemned.
2. In a large city like Indianapolis, where the services of an expert in anæsthesia can always be procured, the physician who does not avail himself of such services should be held to a strict accountability for any disastrous results that may occur.
3. The administration of a general anæsthetic, for the purpose of opening a mammary abscess, is wholly unjustifiable.
4. In view of the above unassailable propositions, the death of the above patient should not be attributed to an unavoidable accident, from the necessary and skilful administration of chloroform.

A LESSON IN LONGEVITY.

The *Medical Age* draws a lesson in longevity from the life of the late GEORGE BANCROFT, in which while it admits that there is no system of living which will insure longevity, yet, withal, there are certain considerations tending that way, and which, if carefully lived up to, offers probably the best chance of reaching close to, if not quite, the hundred year period. The following pertinent advice is given:

Live as much as possible out of doors, never letting a day pass without spending at least three or four hours in the open air.

Keep all the powers of mind and body occupied in congenial work. The muscles should be developed and the mind kept active.

Avoid excesses of all kinds, whether of food, drink, or of whatever nature they may be. Be moderate in all things.

Never despair. Be cheerful at all times. Never give way to anger. Never let the trials of one day pass over to the next.

The period from fifty to seventy-five years should not be passed in idleness, or abandonment of all work. Here is where a great many men fail—they resign all care or interest in worldly affairs, and rest of body and mind begins. They throw up their business and retire to private life, which in too many cases proves to be a suicidal policy.

During the next period—the period from seventy-five years to one hundred years, while the powers of life are at their lowest ebb, one cannot be too careful about "catching cold." Bronchitis is a most prolific cause of death in the aged. During this last period rest should be in abundance.

EDITORIAL NOTES.

RAILROAD TICKET ARRANGEMENTS FOR THE ANNUAL MEETING.—The Railroad Associations have agreed to sell tickets on the certificate plan, as last year, for one full fare going, one-third fare returning. *All must obtain a certificate on purchasing ticket to Washington, OR THEY CAN NOT HAVE THE REDUCTION IN RETURNING.*

AMERICAN MEDICAL COLLEGE ASSOCIATION.—The next meeting of the American Medical College Association will convene at the Arlington Hotel, Washington, D. C., at 8 o'clock P.M., May 4, 1891. The indications point to a very interesting session and a representation from a large majority of the Colleges of the United States. The special committee on permanent organization is at work, and will be ready to report at this meeting.

A GOOD RECORD.—The report of the Medical Department of Harvard College gives the total number of students enrolled during the year 1889-'90 as 304; and of these 156 had literary or scientific degrees—an excellent record in a very commendable direction. The force of a higher teaching and of sterner requirements is also shown by the fact that out of seventy-five applicants for the degree of Doctor of Medicine in the three-years' course, twenty-two were rejected; while out of fifteen applicants for the same degree in the four-years' course, two were rejected, and four received the degree *cum laude*. There is food for thought, as well as a decided plea, in these figures.

SOCIAL EVIL ACT.—The Legislature of Missouri has listened to the second reading of an Act for the regulation of prostitution. The fundamental points of the bill are patterned after the German laws, which have proved to be ineffective.

LEPROSY IN MINNESOTA.—The State Board of Health of Minnesota report sixteen cases of leprosy within its jurisdiction. It is quite entirely among emigrants.

AIDS TO MILITARY FIELD SERVICE.—The French have adopted a very simple yet serviceable plan of supplying each soldier with a packet of surgical dressings suitable for immediate use, and always present. The packet consists of antiseptic gauze, absorbent cotton, and bandage, together with two safety pins. All this is folded com-

pactly, surrounded by oiled silk, stitched within another covering of durable material, which renders it waterproof, and sewed upon the inside of the clothing over the left breast.

NEW COLLEGE BUILDING.—Plans are out, furnished by S. S. Beman, architect, for a new four story building for the Chicago Medical College. It is to cost one hundred thousand dollars, and is to be located on Dearborn St., near Twenty-fourth.

COLLEGE SOCIETIES.—That medicine is gradually acquiring that recognition to which its nobleness and scientific character entitles it, is indicated—to a degree—by the establishment and progress of fraternal, Greek-letter chapters at the larger and more progressive centres of medical learning. The *Nu Sigma Nu* confraternity (Medical) held its ninth annual meeting at Detroit recently, there being a representation from chapters located at Ann Arbor, Detroit, Pittsburg, Philadelphia, and Minneapolis.

HARVARD ALUMNI IN NEW YORK CITY.—The graduates of the Medical department of Harvard, now residing in New York City, have of late organized into an association. Monthly meetings will be held.

PRACTICAL LECTURES IN PRACTICAL FIELDS.—A free course of practical lectures is announced for mothers and nurses, at the New York Post-Graduate Medical School. Among the subjects to be treated are the following: "The Care of the Eye;" "The Most Frequent Surgical Incidents in Infancy and Early Childhood;" "The Care of the Skin in Health and Disease;" "Practical Points in the Nursing at the Babies' Wards as Employed in Lung Diseases, Fevers, Intestinal Diseases, etc.;" and "Infant Feeding and the General Care of Young Children."

THE WAY THEY DO AT VIENNA.—Late correspondence to the *Medical Record* rehearses the details of a sudden death upon the operating table—from the occurrence of an air-thrombus, as was shown by the autopsy—and following the operation for the removal of a goitre. It was at Billroth's public clinic, and the absence of measures which aid recuscitation was notable, however impossible of success their application might have been. Yet it was the events following, more than the "shadows before," which are

unique, as will be illustrated by the following quotation: "A most unpleasant impression was made on all the foreigners present by this tragic spectacle, and one could not but be struck by the unshaken coolness with which the surgeon, after the dead body of his patient had been carried out, proceeded immediately to perform a goitre extirpation on a second case—this time with a happier result."

MEDICAL LEGISLATION.—A bill to regulate the practice of medicine in California has been introduced before the legislative assembly at present in session. The bill provides for the establishment of a State Board of Medical Examiners consisting of seven members, appointed by the Governor, one from each of the well-established medical schools, and the others at large.

BROMOFORM, which has recently received wider endorsement in the treatment of whooping cough, was first brought forward as a remedy in this disease by Dr. Stepp, of Nürnberg, in 1889, who spoke of its value by both inhalation and internal administration. According to *Phar. Zeitsch. für Russland*, Stepp administered it in the following manner: bromoform 10 drops, alcohol 3 to 5 c.c., aqua dest. 100 c. c., syrupus 10 c. c. A cure is claimed in from five to ten days.

FOREIGN BODY IN THE MALE BLADDER.—Dr. Geo. H. Monks, of Boston, mentions in the *Boston Medical and Surgical Journal*, the removal by perineal section, of a piece of lead pencil over two inches long from the male bladder. The substance had been introduced by the patient with a view of overcoming a stricture of the urethra.

MEDICAL ITEMS.

MEDICAL LEGISLATION IN MISSOURI.—There is now pending in the Missouri legislature a bill to compel all medical colleges in the State to adopt three courses of lectures as a condition for graduation. All of the medical colleges in the State, excepting one, are favorable to the bill.

THE ILLINOIS STATE BOARD OF HEALTH has decided that hereafter it will recognize no foreign diploma that does not confer upon its holder the right to practice medicine in the country in which it was granted. The holder of an Austrian, a German, Russian, or Swiss diploma, wishing to practice in Illinois, must hereafter pass an examination

before the Board, unless he have a pass certificate from a government examining commission. The holder of a Canadian diploma, unless a licentiate of the College of Physicians and Surgeons of Ontario and Quebec, must pass an examination in order to be licensed in Illinois.

THE PREVENTION OF NARCOTIC INEBRIETY.

—At a meeting of the American Association for the Cure of Inebriety, held February 18, at the Academy of Medicine, New York, Dr. J. B. Mattison, of Brooklyn, offered the following preamble and resolutions:

WHEREAS, a leading cause of morphinism, chloralism and cocaineism is the facility with which morphine, chloral and cocaine can be procured from pharmacists: and,

WHEREAS, the refilling of prescriptions containing these drugs is a potent factor in the rise and growth of these diseases:

Therefore, be it resolved, as the sense of this Association, that no retail druggist should sell morphine, chloral or cocaine, except on a physician's prescription.

That no prescription containing morphine, chloral or cocaine should be refilled except on the written order of a physician.

These were unanimously adopted, and a committee consisting of Drs. Mattison, Crothers and Wright, was appointed to secure legislation along the line of the resolutions.

In future all candidates for medical degrees in France must produce a certificate of re-vaccination according to the regulations, otherwise they will be debarred from registration.

THE STATE BOARD OF HEALTH OF MAINE has introduced a bill into the legislature to provide for the registration of vital statistics. The bill was prepared by the State Board of Health after an extended examination of the existing laws of other States, and an effort is now being made to secure its passage. It seems almost needless to point out the value of such a bill. An official registration of births, marriages and deaths, in such a form as to make it furnish facts available and valuable for various purposes, is considered so important a work that most civilized States and nations have not omitted to provide for it. Vital statistics, when properly collected and recorded, are invaluable for a variety of purposes which will readily suggest themselves, and it is, therefore, somewhat remarkable that the State of Maine should have thus far neglected to provide for their registration.—*Sanitary News*.

TOPICS OF THE WEEK.

THE LONDON LANCET.

For years this valuable journal has occupied a foremost position in the field of medical literature.

It has achieved a success of which any Briton may justly be proud, and we, as Americans, are none the less ready to accord to it the preëminence which by the herculean labors of its founder it finally came to command. The difficulties which it encountered were simply immense; but by reason of these its triumphs were the more conspicuous. Medical journalism has everywhere its obstacles—hindrances, criticisms and discouragements—and those who become familiar with the earlier history of *The Lancet* will discover that such besetments are by no means peculiar to medical journalism in America.

We are confident that American readers will be deeply interested in a brief recital of some of the earlier experiences of *The Lancet* as given recently by one of its correspondents, and we quote from his article as follows. He says:

I have recently had the curiosity to go through the files of *The Lancet* with the object of discovering and recording if possible the tone and aims of that journal from its inception, and the enormous labor has been amply repaid by the discovery of the rich mine of wealth which the volumes contain. I believe I have discovered the secret of the unparalleled success and the high reputation of the chief organ of the medical profession. In one of the volumes I came across what may be called *The Lancet's* confession of faith. "*The Lancet* will perpetuate the memory of Thomas Wakley—the founder of this journal—by cherishing after his death the principles to which he consecrated his life." The solemnity of expression in the passage on the occasion of the death of the founder led me to further inquire by what motives he had been actuated, what such a memory and example required of his successors, and how far the solemn promise had been fulfilled by them. What had he to gain in requiring that medical men should be adequately rewarded for their labors? "I have," said Mr. Wakley in a public speech—"I have foreworn medical practice. I use only the lancet, and that in the form of a quill." From that time he became the champion of medical reform of all kinds. If we turn to *The Times* of 1827 we find that at that early period *The Lancet* gave the first blow to "cupidity and corruption, by establishing a free medical press, and rousing the profession to a sense of its injuries and indignities, and to a spirit of resistance." Mr. Wakley's great aim was always to uphold the rights of the profession as a whole by the adoption of straightforward courses of action. What has he gained for medical men? In former days, when scarcely a week passed without furnishing instances of imbecility and ignorance on the part of coroners, and the reports of insults borne by medical men who were, without fee or reward, compelled to attend these "worthless, expensive, and pernicious exhibitions," he raised his voice with no uncertain sound against such palpable abuses, and earned for himself no small share of obloquy from those who considered

themselves injured by his fearless exposure of base principles. Unmistakable deaths from poisoning were recorded by coroners' juries from time to time as "Deaths by the visitation of God." Abuses so apparent soon roused him to most energetic action, resulting in his candidature and election for the office of Coroner for the Western Division of Middlesex at the enormous cost to himself of many thousands of pounds. From that time *The Lancet* has consistently supported the appointment of medical coroners, and now scores of medical men occupy that position. The Coroners Act, allowing the appointment of a permanent deputy coroner, and the Medical Witnesses Bill were introduced to parliament on his instigation and passed in consequence of his exertions.

As a direct result of his personal patience, an inquiry into the flogging to death of a soldier at Hounslow Barracks led to the abolition of flogging in the army. His keenest shafts, however, were aimed at empiricism and cant, "the *prima materia* of the devil," as Carlyle called it. He hated shams, and loathed the feebleness which succumbs to mere authority. He succeeded to a great extent in rescuing the very institutions which were established to prevent quackery from the quagmire of empiricism into which they themselves had fallen. His attack on the faults and absurdities connected with medical education should render the medical student of to-day, perhaps more than anyone else, grateful to the founder of *The Lancet*, for it is through his instrumentality that every student has now secured to him able and earnest teachers, and the right of using freely the opportunities which public hospitals afford him for his improvement. The first great battle by which the rights of a free medical press were established was won by Mr. Wakley on their behalf. Up to the year 1825, no clinical lectures were delivered in the hospitals, and no reports of the cases which occurred in them were published. The famous action of *Abernethy v. Wakley* established the right of the medical journals to print public lectures, and was a triumph for the press, the influence of which has been great and lasting. With regard to the decision in the case of *Brausby Cooper v. Wakley*, Sir James Scarlett, the opposing counsel, admitted "that the example of this proceeding has given to the periodical press a triumph and an influence which it never had before."

Mr. Wakley was one of the first to urge upon his medical brethren the necessity for their being represented in Parliament by members of their own profession; and, ever ready to practice what he preached, he submitted himself as Parliamentary candidate for Finsbury. Twice he went to the poll, and twice was he defeated. Undaunted, he went again to the poll at the next election, and was returned by an overwhelming majority. Before he had been many weeks in the House he began to manifest his care for the interests of the profession by asking questions of the greatest importance to its members, and throughout the whole of his Parliamentary career of twenty-four years was he the staunch champion of medical men, influencing the House to appoint select committees to inquire into abuses, introducing Bills, moving amendments, and in many other ways acting in their interests. He established a life assurance office for the pur-

pose of enforcing the payment by the various offices of the fees for the medical examination of their clients, urging that, as medical reports were given in the interests of the offices, payment of the fees should therefore be made by them. What is the direct result of this action at the present day? Every office now pays the medical fees, and I observed in a recent issue of *The Lancet* that during the past year one office had paid as much as £50,000 in recognition of the services of medical officers. In his threefold capacity of Member of Parliament for Finsbury, Coroner for West Middlesex, and Editor of *The Lancet*, he wielded a power unequalled by any other man in the profession, and was not slow to use it for the advancement of its interests and welfare. Perhaps one of the most important public functions performed on behalf of the poor by Mr. Wakley was the establishment of an Analytical Commission which exposed the adulteration of food, and converted the press into an instrument of police by establishing in *The Lancet* the precedent of publishing, fearless of all legal consequences, the name and address of the establishment where adulteration was carried on. In many cases he would add: "This is the third article which we have found adulterated—the public should avoid the shop." As a result, legal actions bristled around him, but such was the genuineness of his work that in not a single instance was an unfavorable verdict recorded against him. Some years after the establishment of his Analytical Commission, an Act of Parliament was passed requiring the appointment of public analysts throughout every district of the country. The public benefits resulting from this work cannot, indeed, be overrated.

What did he gain by the exertion of his indomitable courage on behalf of his professional brethren? Either as plaintiff or as defendant in the law courts Mr. Wakley must have fought some twenty-five or thirty actions, contesting in his own person with some of the leading barristers of that day over matters connected with the advancement of the profession at so great a personal expense that on several occasions the very existence of *The Lancet* was imperilled. He lent his aid in reforming the Lunacy Laws, and was always the defender of the rights and privileges of the medical officers of the united services and of the Poor-law administration. He was the champion of the Fellows and Members of the Royal College of Surgeons, who were unfairly treated by a Council then wholly irresponsible and self-elective. In regard to this body he maintained that when a few individuals were appointed to watch over the interests of a large body of men, it was quite necessary, in order to secure upright conduct on their part, that the interests of those few should be identified with those of the many. To this end he labored, exposing and denouncing the procedure of the "minacious oligarchy of our mismanaged temple," as he called the Council, and characterizing certain of the By-Laws then in force as "instruments of corporate iniquity." To attack abuses uncompromisingly wherever they existed, to spare no effort, toil, or trouble to effect reforms wherever they were required, to raise the profession as a whole from the lowly position it then occupied to such a level as it has

now attained in public esteem, where some of the labors of a life remarkable at once for uprightness and disinterestedness of purpose.

'I've heard of hearts unkind,
Kind deeds with cold returning.
Alas! the gratitude of men
Hath oftener left me mourning."

The memory of Thomas Wakley should be written in letters of gold on the mind of every medical man. Examples and principles such as these are surely those which all should be proud to follow and adopt, for even now necessity for further reform in each and all of the directions I have indicated is not wanting. I earnestly hope and believe that you, the successors of so worthy an ancestor, will persist in the noble endeavor to carry out the promise made at the time when he ceased to labor among us, and in so doing—though you may easily fall short of the rare excellence which he at all times displayed—nevertheless you will have adopted a course which shall be honorable alike to yourselves and of the highest utility to the noble profession you have the honor to represent.

THE ELEVENTH ANNUAL REPORT OF THE NEW YORK STATE BOARD OF HEALTH.

Doubtless the most interesting point in the report of the State Board of Health for last year is the statement concerning the effects of the influenza which prevailed a year ago. According to the report, the number of deaths in January, 1890, was 13,000—larger than ever before and 5,000 in excess of the average for that month for five years. This increase is considered to have been undoubtedly due to the epidemic. There were 3.51 deaths per 1,000 population from zymotic diseases during 1890, against 3.90 in 1889. Typhoid fever had a lower mortality. Diphtheria also seems steadily to have declined in prevalence. Small-pox caused only four deaths during the year, two of which were reported from New York City, the others occurring in Cohoes and Dausville. Consumption caused about 12 per cent. of all deaths.

PROGRESS IN THE RIGHT DIRECTION.

A comparison of the Seventh Report of the Illinois State Board of Health, on Medical Education, with the one for 1890, shows that some marked changes have taken place in the past year, and when a review is made of the changes for the better since the session of 1882-1883, there is much cause for congratulation and encouragement. There are now 148 medical colleges of all kinds in existence in the United States and Canada, there being 135 in this country and 13 in Canada. In 1882 the number of colleges requiring certain educational qualifications for matriculation was 45; in 1886, 114; in 1889, 117; in 1890, 124; and in this report 129.

In 1882 the number of colleges that required attendance on three or more courses of lectures before graduation was 22; 1886, 41; in 1889, 47; in 1890, 64; in this Report, 85. Of the 148 colleges all have chairs of hygiene except 14, making 123 that teach this branch, while 119 now have chairs of medical jurisprudence.

PRACTICAL NOTES.

FOR NASAL CATARRH.

A writer in *L'Union Méd.* states that the following prescription is much used in London hospitals:

- R. Ammonii chlorid., 30.0.
Sodii chlorat., 75.00. ℞.

Sig. A teaspoonful to a glass of water, to be used twice daily as a nasal douche in post-nasal catarrh combined with deafness.

—*The College and Clinical Record.*

TO RELIEVE NAUSEA AND VOMITING.

A writer in the *Therap. Gazette* states that a mixture of 1 part of menthol, 20 parts of alcohol and 30 parts of simple syrup, will relieve nausea and vomiting—sometimes even the obstinate vomiting of pregnancy—if given in teaspoonful doses every hour.

TO PRODUCE ANÆSTHESIA OF THE SKIN.

A spray of chloroform, 10 parts; ether, 15; menthol, 1 part, produces complete anæsthesia of the skin, lasting for from two to six minutes.—*Pittsburg Med. Review.*

AN OINTMENT FOR PRURITUS OF THE ANUS AND VULVA.

Balfour reports that he has almost never failed to obtain relief, in cases of pruritus of the anus and vulva, from an ointment containing 80 grs. of calomel to the oz. of vaseline or other unguent.

FOR FURUNCULAR AFFECTIONS.

- R. Menthol, gr. x.
Cocainæ hydrochlorat., gr. v.
Ung. resinæ, ʒj. ℞.

—Shoemaker.

MIGRAINE.

The following powder is recommended in *L'a Méd. Moderne* for migraine:

- R. Citrate of caffeine, 1½ gr.
Phenacetin, 2 grs.
Sugar of milk, 4 grs. ℞.

To be repeated, if necessary, in two hours.

WHEN SHOULD MEDICINE BE TAKEN?

The editor of the *Medical Summary* for November thus discourses on this topic: The proper time for the administration of medicines is of equal importance, in many instances, with the selection of the medicine itself. The sooner physicians realize this fact the better for the patients. A large number of medicines are used in a routine way, after meals; but too often, when so employed, they are not properly absorbed, or they hinder digestion, and thus undermine the foundations of nutrition. For example, if the bromides be given after meals their absorption is

hindered, and their presence in the stomach interferes with the peptic ferment; so that, in addition to the depression caused by the bromide treatment, we have superadded that which follows derangements of digestion. Some medicines can be taken at any time, because of their diffusibility; other medicaments, in order to produce good results, should be exhibited after meals; and others again should be used only between meals, when the stomach is presumed to be empty. The administration of pepsin and pancreatin furnish excellent illustrations of these principles. When the secretions of the stomach are sufficiently acid, pepsin alone can be used in the course of half an hour after food; but if there be a lack of acidity, it will be advisable to combine the pepsin with an acid, preferably hydrochloric acid, which is the normal acid of the stomach. Should gastric digestion be slow or imperfect, a little more acid can be added from time to time, although there will be no need of increasing the amount of pepsin provided the peptones are taken up. In the use of pancreatin, on the other hand, the acid condition of the stomach will destroy its activity. This will not take place, however, if the pancreatin be taken with food just after the first mouthful is swallowed, or if the preparation be taken about two or two and a half hours after, when the contents of the stomach are supposed to be neutral in reaction.—*Medical Age.*

THE SPEEDY CURE OF TONSILLITIS.

The *London Medical Recorder*, October, contains the following prescription for the rapid relief of tonsillitis:

- R. Tinct. of veratrum viride, 30 minims.
Sulphate of morphia, 1½ gr.
Distilled water, 6 drachms

℞. Dose, one teaspoonful, given twice, with one hour's interval, at the outset of the treatment, and then at intervals of two or three hours, as may be required.

The author of the treatment holds that there is some kind of therapeutical agreement or harmony between the drugs, when used together, which gives them an efficiency not possessed by either of them when used separately. For example, the liability to nausea from either of them alone is greatly modified by the combination. He refers to a number of cases in which this treatment has seemed to produce unusually prompt relief, and he asserts that he knows of no drug or drugs which have the power to control tonsillar inflammation with the certainty and celerity of those agents when used jointly.

PRESCRIPTION FOR A CORYZA POWDER.

The *Lyon Médical* offers the following powder for inhalation in coryza: Menthol, 1 part, mixed with roughly powdered roasted coffee, 50 parts. Another contains menthol, 2 parts; hydrochlorate of cocaine, 1 part; and boric acid, 100 parts.

SOCIETY PROCEEDINGS.

Buffalo Medical and Surgical Association.

Meeting of January 5, 1891.

THE PRESIDENT, DR. A. A. HUBBELL, IN THE CHAIR.

DR. GEO. E. FELL read a paper on

FORCED RESPIRATION.

(See page 325.)

DR. HARTWIG said he regarded Dr. Fell's accomplishments as being of lasting value to the profession. He considered the use of the face-mask preferable in average cases of forced respiration, because it dispensed with the tracheotomy, which, of course, was not so readily carried out.

He alluded to Schultz's method of artificial respiration by swinging the patient. He was convinced, from his own observation and experience, that infants who were not too heavy to handle, could be revived in every instance where there was heart beat remaining, by that method; and reported a case in which he had, after working half an hour at a stretch before obtaining the first gasp, revived a child; though it died some thirty-six hours later from pneumonia induced by fluids entering the lungs. For larger persons there was no method comparable with forced respiration.

DR. PHELPS reported a case of forced respiration performed by himself and Dr. Mann, some eight or ten years ago, by introducing a catheter into the larynx of an infant still born after a very troublesome breech presentation. They took turns, one blowing air from his lungs through the catheter, while the other applied pressure to the chest to force the air out. After two hours' continuous work the child breathed all right, and lived for several hours.

DR. ELI H. LONG: I want to thank Dr. Fell for his address this evening. I do not know but that I have done the Doctor the injustice of indifference to the claims of his method. I have refrained from criticism, but I must confess that I have not given it the attention which I probably ought to have done; and therefore I am all the more surprised and pleased at his explanation of it this evening. I believe very firmly in forced respiration, and with my experience with asphyxiated infants I am convinced that such cases can be saved by it that cannot be saved in any other way.

Dr. Long reported a case of severe asphyxia following a breech presentation, in which, after the use of the catheter in the larynx and supplying air from his own lungs, he had the child breathing after three fourths of an hour's work. The child lived twelve days. He had also had the pleasure of seeing infants live and thrive in

several other cases in which he had resorted to the method of blowing the air directly from his mouth into that of the child, without the catheter.

DR. W. H. BERGTOLD: A remarkable case occurred in the experience of some friends of mine, which I think I can with propriety say a few words upon. It was the case of a boy who was brought into the hospital having every sign and symptom of tubercular meningitis. He was taken one afternoon, about one o'clock, with entire stoppage of respiration, suddenly, and with no premonitory symptoms whatever. The heart continued beating, firm, strong and regular. The house staff performed artificial respiration on him by Sylvester's method for four hours. The heart continued to beat during this time. When the house staff became pretty well tired out, the trachea was incised and a tube put in, with a sort of bellows arrangement. I do not know how nearly it compares with Dr. Fell's, because I have never examined his, and know nothing about its construction. Altogether this boy was kept alive twelve hours from the time his respiration first stopped. At the post-mortem, which I made the day after, it was found he had the most marked tubercular meningitis. The ventricles were enormously dilated, and there was only about three-fourths of an inch of cerebral tissue left from the cortex down into the ventricles. All of the contiguous tissue was absolutely diffuent. It was not softened, but it was almost like pus, and the medulla was also involved in this process. This case, of course, was absolutely hopeless because of the involvement of the respiratory centre in this process of sloughing. But it illustrates very beautifully what forced respiration will do, and it shows that Dr. Fell certainly did us a very great service in showing us how much can be accomplished by it.

DR. BARTLETT objected to the practice often resorted to and advised, of keeping patients in motion when suffering from an over-dose of morphia. He strongly recommended flagellation, which he had used for many years with good results, and for other than severe cases he considered it one of the best of methods. In severe cases there was probably no method which would compare with forced respiration.

DR. HARTWIG: I would like to ask Dr. Fell whether he would not be afraid of injecting alcohol or ether into a large vein on account of the possibility of thrombosis?

DR. FELL: If such a procedure were attempted at all, it should be done with the greatest precaution, and very slowly injected. In the case of J. B. we injected 8 ozs. of a normal salt solution, and I believe it would be safe to inject the smaller amount of brandy and ether which would be injected by the hypodermic method.

Regarding the other methods of artificial respiration, one significant point I wish to mention

is that forced respiration is more easily applied than any of them, even in infants, if you have the simple apparatus. Then again, in blowing air from the lungs of an attendant by the way of the tracheal tube, it must be recognized that the air passes to the lungs of the patient contaminated with carbon dioxide; we do not pass pure air into the lungs, and cannot expect as good results. It seems to me that Schultz' method would be pretty hard on the child, and harder on the practitioner—and that is the great objection to artificial respiration generally. Furthermore, regarding these vigorous methods, I believe that a great many cases are lost through them. In cases, for instance, where the asphyxia has been long continued, the bare fact of moving the patient about might in many cases produce just the condition which would cause death, through the loss of energy to the muscular tissues of the body; and the heart tissue also.

In narcotized subjects, I believe that means should be used in conjunction with the forced respiration, for combating the poison—atropia, digitalis, and every other means applicable. I think it of very great importance to keep up the energy of the system, even with the use of nutritive material, which will sometimes help greatly.

As to forced respiration being necessary in desperate cases only, if you have the apparatus, it should always be used in preference to artificial respiration because it accomplishes more, and is not conducted at the loss of the patient's energy, and is also less tiresome and easier to apply. As to flagellation, I do not know how valuable it is, but it seems to me that there are cases in which it would be of no value whatever, where forced respiration would be of great value. Only those who have witnessed the effects of forced respiration in a serious case can fully appreciate the full extent of its influence upon the system.

Another point that needs to be considered is, that it is not always the quality or the quantity of the narcotic poison taken that is of the first importance; but how long has the poisonous influence existed? For instance, a grain of morphia interferes with respiration and produces a cyanotic condition, with the heart tissue and the muscular tissue of the body losing energy through the asphyxiated condition. There you have an influence entirely outside of the influence of the poison, which indeed may be the controlling factor in the question as to whether the patient will live or not.

DR. BARTLETT: Will Dr. Fell kindly express his opinion as to the advisability of keeping the patient in motion?

DR. FELL: I think it inadvisable. After forced respiration is instituted the entire energy of the patient should be saved as far as possible, in my opinion. All that is required is to eliminate the poison and to supply the blood with

oxygen. Do that in the easiest way possible, and you are doing all that can be done, except the using of antidotes advisedly. In opium poisoning it is always very important to catheterize the patient. Opium and morphia being eliminated mostly by the kidneys, this should never be forgotten, nor the injection of water into the rectum, and the administration of water to drink. As the poison is also eliminated by the stomach it may be advisable in some cases to carefully wash it out, but do not let any fluids pass to the lungs. In this way the patient will probably be enabled to eliminate the poison more quickly than by any other means.

DR. DORR: Do you from your experience, and from the case of this patient mentioned, think that those abscesses were caused by the brandy and ether or by a bad needle and infected instrument?

DR. FELL: I believe that the abscesses were caused by the brandy and ether, merely because after a few days there were circumscribed areas all over the region where the injections had been deposited.

DR. DORR: Merely because the capillary circulation was weak?

DR. FELL: Very weak, almost inert, owing to small quantity of blood in the system. I thought at first from rapid breathing it was pneumonia. Another fact worthy of mention is, that in none of these cases has pneumonia or any bronchitis been produced, not even in B's case, the indications were caused by pain over the region of hypodermic medication.

DR. DORR: Have you ever seen in any other case brandy and ether produce abscess?

DR. FELL: I never have.

DR. DORR: It is peculiar if it does in just this condition, because I have never seen it in any other condition.

DR. FELL: I believe it was entirely owing to the fact that the patient had lost so large an amount of blood. The capillary circulation must have been insufficient to carry off the brandy and ether.

DR. DORR: That is quite a physiological point.

DR. FELL: Another point I wish to emphasize is the adaptability of forced respiration in drowning and cases of asphyxia from whatever cause. The drift of this discussion may give the impression that it is more useful in cases of opium poisoning than other cases of asphyxia.

THE PRESIDENT, DR. A. A. HUBBELL: I am sure we are satisfied of one thing, gentlemen, and that is that Dr. Fell can give us a good deal of light on the subject of opium poisoning and all cases of asphyxia, and his remedy certainly deserves a great deal of commendation, as it has in fact received it by so eminent an authority as Dr. H. C. Wood, of Philadelphia, and in such a public way.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

Koch's Lymph in the Hospitals and Laboratories of Paris—The Library of a French Doctor in 1609—Compulsory Revaccination of Medical and Pharmaceutical Students—Post-Guillotine Phenomena Observed in the Body of Eyraud—Portable Field-Dressings for French Soldiers—Hygiene at the Hair-Dressers.

The latest judgment passed by our leading medical authorities on this new treatment of tuberculosis are not of a favorable nature. The most sweeping condemnation of the method emanates from Professor Verneuil, the veteran surgeon of the Hotel Dieu, (formerly of La Pitié). At a clinical lecture recently delivered, the Professor summarizes the results yielded by Koch's treatment as follows:

- | | |
|---|---|
| 1. Genuine and lasting cures—still unknown. | 7. Serious complications set up in normal or non-tuberculous organs—frequent. |
| 2. Temporary improvement—a few instances. | 8. Early fatal complications from local aggravation or the setting up of lesions of hitherto healthy viscera—already very numerous. Virchow having made 28 autopsies. |
| 3. Improvement of any reasonable duration—much rarer. | 9. Remote complications ending fatally—several already noted. |
| 4. Condition stationary after weeks of treatment—very common. | |
| 5. Temporary, but more or less serious local aggravation—ordinary result. | |
| 6. Persistent local aggravation—of common occurrence. | |

As regards the diagnostic value of the lymph, he disparages it on the ground of its uncertainty, and the danger inseparable from the inoculatory process. He asserts that, in the immense majority of cases, ordinary clinical and bacteriological examination suffice amply to elucidate the true nature of tuberculous affections, and he opines that, even when these diagnostic means fail, it is wise to abstain from the employment of the lymph.

We still await the collective report of the committee appointed at St. Louis Hospital to study the clinical effects of the lymph. M. Vidal, one of its members, has made (Soc. de Dermatologie et de Syphiligraphie, January 15) an anticipatory report which reveals no new facts, excepting the supervention in the course of the treatment of myocarditis and endocarditis. Great caution has been observed in the dosage, each patient receiving only one-half milligram, and the dose being increased by the same quantity till the temperature reaches 102.2° F., an interval of from four to eight days being allowed between each inoculation.

At the Académie de Médecine (February 10) Professor Jacoud reported the results obtained from the inoculation of guinea pigs with Koch's lymph. A robust Angora guinea pig, weighing 580 grams, received in two series of inoculations (separated by an interval of a week), and extending over ten and eight days respectively, a quan-

tity of pure lymph equal to 50 centigrams. The only effect observed was a loss of weight of 26 grams. The day following the last inoculation the animal was inoculated over the right shoulder with one-half of a tuberculous gland furnished by another guinea pig. A month later the animal died, weighing only 450 grams. The autopsy revealed the presence of tuberculous glands in both axillæ, confluent grey tubercles in both lungs, hepatization of right apex, and caseous masses in the liver and spleen. The experiment was controlled by the simultaneous inoculation of a test guinea pig with the other half of the tuberculous gland. This animal has lost 88 grams in weight and has developed tuberculous glands in the axillæ, but he has already survived his Kochined comrade by six days. Dr. Dujardin-Beaumetz has likewise treated tuberculous guinea pigs with the lymph, but this treatment did not prevent the animals dying, as usual, when they had lost one-third of their weight. The same fatal result ensued in the case of Kochined guinea pigs inoculated subsequently with tuberculous virus.

The following inventory of the somewhat meagre library of a whilom practitioner, one Richard Hunot, "*en son vivant médecin et bourgeois de Saint-Ouen de Caen*," may interest your readers. As a rendering into modern English of this curious document would deprive the Rabelaisian phraseology of its author of its native piquancy, I transcribe it *in extenso*:

Le 27 janvier 1609, Guillaume Le Bailly, sergent royal "fit inventaire par répertoire des lettres, pièces d'escritures, ensemble de quelques livres demeurés du décès de défunt M. Richard Hunot, d'autant que j'en ay trouvé tant dans l'une des armoires, ung buffet que dans ung petit coffret." L'inventaire établit de nouveau l'excelleinte situation du défunt: quant à la bibliothèque, elle est bien peu volumineuse:

Item ung grand livre convert de blanc, intitulé Les pourtraicts anatomiques de toutes les parties du corps humain, gravés en tailles douces;

Item ung autre grand livre couvert de rouge, intitulé Les œuvres de Ambroise Paré, conseiller et premier chirurgien du Roy;

Autre livre couvert de parchemin intitulé Les voyages du s^r de Vilarnont;

Autre livre couvert de rouge intitulé Les institutions chirurgies de Jean Trigault, docteur en médecine;

Autre vieil livre sans intitulation commençant; puisque j'auray rendu graces à Dieu qui donne vie, etc.;

Autre petit livre intitulé Traicté de la nature et curation des plaies de pistollé et arquebouses;

Autre livre intitulé: La chirurgie mise en théorie et pratique;

Autre livre en latin intitulé Petit pontamy cecy burgensis (sic), etc.;

Item autre petit livre couvert de blanc intitulé Le guidon des apotiquères;

Autre viel petit livre intitulé Le grand Albert.

According to the terms of a ministerial decree, dated January 1, 1891, all students of medicine and pharmacy throughout France are compelled, before their names are allowed to be entered on the rolls of their several faculties or schools, to produce a certificate of revaccination performed

under the control of the faculty or school at which the aspirant desires to prosecute his studies. This prophylactic measure is, moreover, rendered incumbent on students already on the books before they can take out further *inscriptions* (sixteen inscriptions are necessary for the doctorate). Apropos of this excellent regulation, I may mention that a strong current is setting in among French hygienists in favor of compulsory vaccination and even revaccination for all classes of society. The subject has been hotly discussed for the last few weeks at the Académie de Médecine in connection with the "depopulation" so-called of France. It is strange to hear such an enlightened personage as Professor Le Fort rejecting such a wise precaution as an infringement of the liberty of the citizen. On the other hand, Brouardel, Proust, Colin, Hervieux are all in favor of the primary and the secondary operations being rendered more vigorous in their application, rightly regarding the forcible isolation of variculous patients advocated by M. Le Fort as a greater violation of individual liberty than the innocuous and much more effective practice of vaccination.

The late Paul Loye maintained that decapitation put an immediate stop to all vital phenomena. M. Laborde had the opportunity of noting in the case of the notorious assassin of the process-server Gouffe, the occurrence of the following phenomena, the presence of which disproves the above assertion. Immediately after the execution there was noted marked corrugation of the forehead extending to the vertex; associated ocular movements; opening and shutting movement of the mouth of a respiratory type. The palpebral reflex could be plainly evoked for from fifteen to twenty minutes after decapitation, during which time the iris remained sensible to the stimulus of light. Simultaneously with the deposit of the trunk in the basket there were noticed up and down movements of the arms, plainly visible despite the fact that they were firmly ligatured to the sides. This phenomena is, it appears, well known to Deibler's assistants, who, in their figurative language denominate it "the flapping of the wings." The feet were strongly retracted, and when M. Laborde pinched the arm, the trunk being in the basket, a reflex movement was very apparent. As M. Laborde remarks, these reflex movements are strictly analogous to those perceived in the abattoirs, where the stimulation of a member immediately after felling produces a violent kick.

The Minister of War has decreed that each officer and private shall receive, in the event of mobilization, a field dressing to be carried in the inside pocket of his dolman, waistcoat or hood. The small packet, shaped like a flat pocket-book, is composed of: 1. An outer covering of cotton stuff; 2. An inner envelope of macintosh; 3. A

cake of cotton wool rendered antiseptic by a previous steeping in a 1 per 1,000 solution of corrosive sublimate. This cake is wrapped up in gauze and can, if need be, be divided into two layers for a double dressing (entrance and exit wounds by bullets); 4. A small compress of silk gauze, also aseptically by sublimate; 5. A fragment of macintosh to prevent the drying of the dressings when applied; 6. A gauze bandage, also sublimated, six centimetres broad by 7 metres long; 7. Some safety-pins wrapped in paper and deposited between the two envelopes so as to prevent the metal being attacked by the sublimate.

While on the subject of antiseptics, let me record the first instance known in this country, so renowned for its *coiffeurs*, of a barber applying the principles of surgical cleanliness to the purifying of the weapons with which he assails the faces and scalps of hirsute humanity. The name of this perfumed emulator of Lister is not stated, but he applies his aseptic scissors, razors and brushes at Lyons. His razors are mounted in aluminium, the scissors are nicked, the brushes being provided with bristles which are screwed on to the wood, thus avoiding the necessity for the employment of glue or stitches. After use, these instruments are well washed and then subjected to a temperature of 120° C. in an oven enclosed in a layer of glycerine heated by a range of gas jets.

Some time ago, the Board of Health of the Seine adopted, at the instance of M. Lancereaux, a resolution recommending similar precautions (the purifying of instruments used by hair-dressers by means of the flame of a spirit-lamp, and antiseptic solutions). This resolution has, I believe, remained a dead letter, and the public continues to run the risk of contracting various parasitic cutaneous diseases, not to mention syphilis, at the hands of "capillary artists" unacquainted with, or careless of, these dangers. All honour, then, to the pioneer of *fin de siècle* shearing who is the subject of this article!

J. H. B.

NECROLOGY.

Dr. Hosmer Allen Johnson.

Dr. Hosmer Allen Johnson was born not far from Buffalo, N. Y., in a town called Wales. Here he lived until about 10 years of age, enjoying those advantages for early boy life which spring from a home filled with elevating influences, and from contact with the phenomena of rural nature. It was interesting to note how this early study of the beautiful in nature acted like a lofty education, and impressed itself on the whole tone of his mind. Near his early home there is a hill range of considerable height. Its

rocks are carved by streams into gorges, decorated with mosses and wild flowers and crowned with woods. Here the boy, Hosmer Johnson, used to wander and climb, studying the beauty of the views, and filling his memory with pictures which tinted all his after life and were never effaced by the larger views of other regions. Here he learned to love nature, and to realize how its magnificence typifies the glory of its Creator.

These sentiments never died out. On the contrary, they strengthened with his growth, and helped to form in him that pure and elevated taste which gave such a charm to his whole career.

It was this which caused him to select a scientific profession, as well as to study nature for a recreation. He traversed wild rivers in a canoe, sleeping in the forests; he climbed the White Mountains on foot, and rolling himself in a blanket, slept under the stars with a friend or two at his side. The same feeling led him to explore Switzerland, California, Colorado, and the mountains about Puget's Sound.

These memories prompted him when he assisted to found the Chicago Academy of Sciences and the Astronomical Society, and led him to say and do all he could to encourage the study of natural objects. Such results are worthy of thought at a period when the growth of cities is more and more shutting men out of nature. Perhaps if we could bring more children under the influences which molded the youth of Johnson, we would have more such men in after life.

At the age of about ten years he removed to Almont, Mich., and helped cut a farm out of the woods, at a time when wolves and Indians were far more abundant than civilized beings. During this period an attack of sickness left him with an irritation of the bronchial tubes which never fully left him, and caused many of his acquaintances to suppose for fifty years that he was on the verge of consumption. There was, however, not the slightest tendency to tuberculosis in any part of his body, but the pulmonary irritation subjected him to repeated attacks of pneumonia, and it was one of these which at last caused his death at the age of sixty-eight years. In his early manhood he expected only a short life, and scarcely dreamed of attaining the age which he finally reached.

In the year 1841 he entered an academy at Romeo, Mich., where he prepared for college, and then entered the University of Michigan, from which he graduated in 1849.

His educational career showed a remarkable talent for the acquisition of languages, both ancient and modern, and he studied Latin, Greek, Hebrew, French, German, Italian, and to some extent, Spanish. In his boyhood he also picked up from the surrounding Indians, a considerable practical knowledge of the Ojibway tongue. Three years after taking his A.B. he received the

degree of A.M., and at a later period that of LL.D.

After graduation he went to Chicago and commenced the study of medicine under the supervision of Prof. Herrick. In 1851 he became the first interne of Mercy Hospital, and in 1852 graduated in Rush Medical College. In 1853 he became a member of the Faculty, and continued with it until 1858, when he resigned. Not long after his resignation he united with a few others in founding the Chicago Medical College, in which he was a professor and trustee from the beginning to the day of his death, and was the first president of the faculty.

His zeal for the study of nature led him to become one of the founders of the Chicago Academy of Sciences, as well as of the Historical Society, and of the Astronomical Society.

He was for some years editor of the *Northwestern Medical Journal*, and afterwards a member of the City, State and National Boards of Health. During the war of the rebellion he was commissioned by the Governor, with the rank of Major, as one of the Board for examining surgeons and assistant surgeons for the Illinois regiments, and such was the faithfulness of the Board that the medical officers of Illinois were conspicuous in the whole army for their thorough knowledge, and their humane and skilful conduct on the field of battle. In examining assistant surgeons for promotion, he had to traverse the field of war, and his duties brought him occasionally under fire, at which times he showed his skill as an operator and as a manager of field ambulance service.

After the great Chicago fire, Dr. Johnson was one of the chief managers of the Relief and Aid Society, which distributed millions of dollars of property among the sufferers.

He married Miss Margaret Seward, a relative of the New York statesman, William H. Seward. He had two children, of whom only one survived him, Dr. Frank S. Johnson, Professor of Pathology in Chicago Medical College.

Dr. Johnson was much more than simply an eminent physician. He was a magnificent man, possessing a clear, trenchant intellect, and a great and noble heart. His reputation is without spot, and his honor without stain.

HOSMER A. JOHNSON.

ORBIT FEB. 26, 1891.

We mourn for him whose life has flown
Out from its fragile shell of clay.
Into the nightless, perfect day.
To reap the fruit that here was sown.

Not all the good of earth, die young;
Of him no truthful tongue spoke ill;
And praises to his gentle skill
By twice ten thousand hearts are sung.

For him no banners drape the air,
No half-mast flags droop in the blue;
But tears shall fall as evening dew,
And science garb of mourning wear.

No need of shaft to mark the bed
Wherein his dust dissolves in dust—
Fair Science keeps her own in trust,
If they but walked where Nature led.

No nation honors those that stand
And battle with the living death—
The stalking plague and poisonous breath
More fatal than the foe-man's brand.

No rifled gun nor keen-edged sword
Can reach the enemy he fought;
Death in its ghastliest form he sought,
Yet not for honor nor award.

'Twixt death and human kind he stood:—
Let fame on such no longer frown.
For deeds of blood award no crown,
But rather for the doing good.

Man's friend he was: foes had he none
In fruitful youth or ripened age—
His life a clear and bloodless page
Of noble deeds more nobly done.

No bias warped his balanced mind
To superstition ne'er a slave;
Let this be written o'er his grave:
"He gave his life to all Mankind."

Such men kind Nature ever needs
To reason from effect to cause;
Yet shows them only half her laws,
To spur them on to nobler deeds.

For these the stony paths she smooths,
And guides her children in the night,
While far beyond she hangs the light
That lures them on to greater truths.

What need his virtues to portray?
What need his memory to defend?
As patriot, healer, sage and friend
He walked in his Great Master's way.

WILLIAM G. EGGLESTON.

Springfield, Ill., Feb. 27, 1891.

SPECIAL CORRESPONDENCE.

An Act Pending in Congress of Interest to the Medical Profession.

To the Editor:—The chief provision and object of a measure now pending in Congress, and subject to action at an early date, is that requiring all articles publicly sold for consumption or use to show upon the container the nature, or name of the contents.

The Bill, having a strong and influential commercial backing, came near passing when first presented, and early in the session, but was made, with all other legislation, to give way for tariff politics, but not until it had aroused a furor of alarm among a class against whom it was not aimed, but were in its line of effect. These were proprietary, and the whole swarm of patent medicine frauds.

Is not this the time to see that these evils, enemies of the public—infinately worse than an oleomargarine operator—do not escape the just application of so reasonable and *unassailable* regulation. Floods of the most potent and poisonous articles whose effects every practitioner is called to relieve, are sold with no evidence or means of judging its character, thus obliging us blindly to prescribe, or select an antidote.

The deadly results from the use of substances for food and medical purposes are becoming of alarming and increasing frequency.

No exceptions should be made in this Act now before Congress, and medical men are already discerning the penalties which torpor and inattention upon the part of the profession has incurred. The public robbed, swindled, and injured in health—not to say fatally imposed upon by the unrestricted and unchallenged purveyors of death and disease in the guise referred to. Medical men are held responsible for their dispensing by the files of the druggists, whose convenience in cases of carelessness or accident is often proven, while the veriest ignoramus may, under copyright protection, sell the most potent drug and disguise its character by any term he may choose to adopt.

H. C. MARKHAM, M.D.

Independence, Iowa, Feb. 19, 1891.

The Association of Military Surgeons of the Wisconsin National Guard.

To the Editor:—In response to a call from the Surgeon-General, N. Senn, for February 26, 1891, the surgeons of the Wisconsin National Guard met in Milwaukee for the purpose of organizing an association for the advancement of military and accidental surgery and to be called "The Association of Military Surgeons of the Wisconsin National Guard." The work of the Association will be clinical, experimental, original, etc., pertaining to military surgery. Surgeon-General Nicholas Senn was elected President; Major F. J. Wilkes, 2nd Reg. W. N. G., Vice-President; Lieutenant Ralph Chandler, 1st Light Battery W. N. G., Secretary and Treasurer.

The surgeons responded to a man. The Association has a membership of fifteen and will meet once every four months.

The day was spent very profitably in clinical work at the Milwaukee Hospital, Soldier's Home Hospital, and in demonstrative and experimental work in intestinal surgery and gun-shot wounds of the abdomen, on dogs, at the Milwaukee County Hospital. Each member was given an opportunity to exercise his skill in suturing intestinal wounds. At 8 P.M. the surgeons assembled at the Republican House, where an elaborate banquet was tendered by Surgeon-General N. Senn. Toasts were given and the wee small hours were long on their way ere the surgeons had fully vanquished the enemy.

All await with pleasure the announcement of the next meeting. It is hoped that this will be a stimulus to surgeons of other States to form similar organizations with a view of eventually calling a National one.

Efforts will be made to fill vacancies in the medical department of the W. N. G. as they occur, by a competitive examination.

RALPH CHANDLER,
Lieut. and Asst. Surg. 1st Lt. Battery, W. N. G.,
Sec'y and Treas.

Milwaukee, Feb. 28, 1891.

Shall The Journal be Removed to Washington?

To the Editor:—The arguments for removal are: 1. Our JOURNAL has a name distinctive of its nationality, and inasmuch as it represents, or is intended to represent the status of the medical profession of this country, it would seem as if its seat ought to be at the Capital, which, though not the geographical centre, is really the centre from which our whole system of National economy radiates. 2. The Library of the Association and the ever increasing National Library, and the Army Medical Museum are there, and always at hand for the use of the editorial department. 3. The Army, Navy and Marine-Hospital medical and surgical news are there and easily available. 4. National pride may say to many: "Place the National Journal in the National Capital."

Against removal: 1. THE JOURNAL, although born in Cleveland, O., was immediately taken to Chicago, where it was carefully nurtured during its infancy, and where it rapidly grew into its present state of vigorous adolescence. It has become acclimated to the soil of Illinois, and will for the present, other things being equal, no doubt do better there, and reach a vigorous manhood much earlier than if stunted by transplantation; no matter how well the new soil may be adapted to its reception. 2. The personnel of THE JOURNAL may be equally as good and efficient in Chicago as in Washington, and the removal of the material would be attended with a loss that cannot as well be afforded at present as in the future, especially if the management of its financial relations continues as successful in the future as in the past. 3. Chicago is much nearer the centre of our population than any Eastern city, and will continue for some years to become more so, and will annually get a larger increase to the subscription list of THE JOURNAL from the West, in proportion to present population, than from the East.

My conclusions are, after weighing carefully the arguments for and against, that as THE JOURNAL has made a phenomenally rapid growth in Chicago it should remain there. One of the fathers of the American Medical Association and the first editor of THE JOURNAL lives in Chicago. He is robbed in honor; THE JOURNAL was his pet. Let it remain there, at least, while he lives.

E. GRISWOLD, M.D.

Sharon, Pa., Feb. 23, 1891.

To the Editor:—I can see nothing to be gained by removing THE JOURNAL to Washington, D. C.; while, on the other hand, by so doing you leave one of the best medical centres in the world, and take THE JOURNAL to the extreme border of its circulation, thereby depriving many of its readers of its reading for many days after publication. If there is any necessity for moving THE JOURNAL from Chicago, I would be in favor of St. Louis, or some equally good city located mid-Continent, and if I consult my selfish choice, Chicago is preëminently that choice.

A. F. HENTON, M.D.

W. Duluth, Minn., February 21, 1891.

To the Editor:—I have within the last week or ten days received two or three letters suggesting that the question of removing THE JOURNAL should be referred back to the Trustees, who have the power to act. And now comes the deponent, the *St. Louis Clinique* of February, 1891, who deposes and says, that "*we hope a motion will prevail to refer the question back to the TRUSTEES.*" But he precludes that assertion by saying that "the Board was given full power to act: by its act THE JOURNAL was located in Chicago, and by its authority it could remain or be removed." Very good. But will the said deponent tell the Court, who gave said Board this authority? And tell us whether the same body which extended the power in the first place, cannot rescind that power, or take up any subject referred to the Board of Trustees, and modify it to suit their liking?

It is simply the old story of whether the dog shall wag his own tail or whether the tail shall wag its own dog; and that question was overwhelmingly settled at New Orleans a few years ago, on the question of adopting the report of the Committee on organizing the Ninth International Congress, which at that time tried to convince this same Association that they had *been given power to act*, and the dog must be wagged by the tail; but the dog protested against this, and the result was the tail was wagged instead of the dog.

So with this or any other committee of a representative body: that body has the power to take up any question it has referred to any subcommittee, and settle it to suit the majority, and the Trustees acted wisely, and in accordance with parliamentary law and common usage, and former precedents, when they referred the matter of removing THE JOURNAL from Chicago to Washington, back to the Association.

Each Permanent Member of the Association and subscriber is an interested stockholder in THE JOURNAL, to the amount of five dollars a year, and has a perfect right to give an expression as to where he wants THE JOURNAL, he supports published, and this expression should be a *guide-board* to the coming delegates of the next meeting, to direct them in their deliberations, who alone have a right to speak officially on all questions that pertain to the interests of the Association.

Again, permit us to correct the statement of the *Clinique* which says that the Trustees "have recommended that the change be made." *The Trustees as a body have not made any such recommendation.* That is what a certain faction of the Trustees wanted them to vote, but failed to secure such recommendation, and hence the "great controversy" which, the *Clinique* says, "is now being carried on regarding the proposed removal of THE

JOURNAL, from its home in Chicago to Washington City."

R. HARVEY REED, M.D.

Mansfield, O., February 24, 1891.

To the Editor:—Relative to the removal of THE JOURNAL to Washington, D. C., I would say I can see no reason why it should not remain where it is, and think there are several valid reasons why it should.

WM. CASTON, M.D.

Spokane Falls, Wash., Feb. 25, 1891.

To the Editor:—You may add my vote to the Chicago column, relative to the site of your publication.

E. C. SPITZKA, M.D.

712 Lexington ave., New York.

To the Editor:—Why should THE JOURNAL go to Washington? The question is full of suggestion. Why should it have been established at Chicago? Clearly because it was a convenient centre, with no East and no West, whence it could most speedily communicate with all points.

Has it ceased to be our great central metropolis? Then Congress made a mistake in locating the world's greatest exposition.

Are paper, and ink, and printing presses no longer at its command, or are mailing facilities unequal to its demands, or have all the brains of the Nation gravitated to its Eastern slope?

We grant "the sun rises in the East to open and illumine the day," but she travels westward, and at high noon is its beauty and glory.

Whilst Chicago will long remain the central metropolis of America and the most convenient home for its great medical journal, no one section, no one man, will absorb all majesty or power.

Why should THE JOURNAL go to Washington?

W. L. SCHENCK, M.D.

Topeka, Kan., Feb. 28, 1891.

To the Editor:—Leave THE JOURNAL where it properly belongs, in the business and population centre of the country—Chicago, Ill.

G. L. FRITCHETT, M.D.

Fairbury, Neb., February 27, 1891.

To the Editor:—I have heard and read many convincing reasons why THE JOURNAL may with advantage to the whole profession be edited and published in Chicago; but have so far failed, in answer to my enquiries, to discover any justification for its taking up house at the Capital.

It appears to me that the very advance guard of the Washington attack has not yet appeared in sight. In the meantime I suppose it is proper for us to know that when it does come to a comparison between the two cities as teaching centres, as sources of subscription, as sources of advertising patronage and as centres of medical population, most of them who cannot be accused of partisanship, and who are quite as much interested as we are, will decide at once in favor of Chicago.

In the meantime, will some promoter of the Washington scheme kindly give us a *résumé* of the superior advantages, temporal and spiritual, which THE JOURNAL is to enjoy after its advent in Washington?

But perhaps these are to be held back until the well-known hospitality and patriotic associations of the Federal city shall have had an opportunity to work their charms.

Still, in spite of these seductions, I expect, in common with the majority, to cast a vote for Chicago.

CASEY A. WOOD, M.D.

Chicago, Ill., Feb. 25, 1891.

To the Editor:—As an humble member in the rural ranks, I wish to enter my solemn protest against the removal of THE JOURNAL. Such an experiment would be child's play.

Greensburg, Ky., Feb. 28, 1891.

W. M. LEWIS, M.D.

MISCELLANY.

THE PHILADELPHIA POLYCLINIC.—At the annual meeting of the corporators of the Philadelphia Polyclinic held on January 12, 1891, the following new members were elected: John L. Wilson, James Hay, James P. Scott, Mrs. Thomas A. Scott, Mrs. Wm. Waldorf Astor, Roland B. Whitridge, M. D., Mrs. Matthew Baird, Mrs. Elizabeth H. Farnum, Dr. Thomas S. K. Morton, George W. Childs, Mrs. Moses Brown, H. H. Houston, Mrs. Isaac B. Thorn, and Rev. Wm. Neilson McVickar.

At the same meeting the Board of Trustees for 1891 was elected as follows: Charles K. Mills, John B. Roberts, Charles B. Baeder, Rev. G. Woolsey Hodge, H. H. Wilson, Rev. Wm. Neilson McVickar, Henry Leffmann, J. Henry C. Simes, Caleb C. Roberts, Hon. Wm. N. Ashman, Thos. S. K. Morton, H. Augustus Wilson.

MEETINGS OF MEDICAL SOCIETIES FOR 1891.—We are indebted to the *New York Medical Journal* for the following list of National and State Medical Societies, and the places and dates of their meetings for the current year.

For the convenience of those who may desire to consult it, we reproduce the list entire:

- Florida Medical Association, Pensacola, April 14 and 15.
- Medical Society of the State of Tennessee, Nashville, April 14, 15 and 16.
- Medical Association of the State of Alabama, Huntsville, April 14, 15, 16 and 17.
- Medical Association of Georgia, Augusta, April 15, 16 and 17.
- Iowa State Medical Society, Waterloo, April 15, 16 and 17.
- Medical Society of the State of California, Sacramento, April 21, 22 and 23.
- Medical Association of Montana, Helena, April 24 and 25.
- Medical and Chirurgical Faculty of Maryland, Baltimore, April 28, 29 and 30.
- Texas State Medical Association, Waco, April 28, 29 and 30, and May 1.
- State Medical Society of Arkansas, Hot Springs, April 29 and 30 and May 1.
- Medical Society of the State of Washington, Seattle, May 6, 7 and 8.
- Missouri State Medical Association, Excelsior Springs, May 12, 13 and 14.
- Indiana State Medical Society, Indianapolis, May 13, 14 and 15.
- Kansas Medical Society, Wichita, May 13, 14, 15 and 16.
- Illinois State Medical Society, Springfield, May 19, 20 and 21.
- West Virginia State Medical Society, Fairmont, May 20, 21 and 22.
- North Carolina State Medical Society, Asheville, May 26, 27 and 28.
- Connecticut Medical Society, Hartford, May 27, 28 and 29.
- Pennsylvania State Medical Society, Reading, June 2, 3, 4 and 5.
- State Medical Society of Wisconsin, Madison, June 3, 4 and 5.

- Delaware State Medical Society, Rehoboth, June 9 and 10.
- Maine Medical Association, Portland, June 9, 10 and 11.
- Massachusetts Medical Society, Boston, June 9 and 10.
- South Dakota State Medical Society, Chamberlin, June 10, 11 and 12.
- Rhode Island Medical Society, Providence, June 11 and 12.
- Michigan State Medical Society, Saginaw, June 11 and 12.
- New Hampshire Medical Society (centennial) Concord, June 15 and 16.
- Colorado State Medical Society, Denver, June 16 and 17.
- Ohio State Medical Society, Put-in Bay, June 17, 18 and 19.
- Minnesota State Medical Society, Minneapolis, June 18, 19 and 20.
- Medical Society of New Jersey, Long Branch, June 23 and 24.
- Vermont State Medical Society, Burlington, October 15 and 16.
- Mississippi Valley Medical Association, St. Louis, October 14, 15 and 16.
- Tri State Medical Association of Tennessee, Alabama and Georgia, Chattanooga, October (date to be fixed).
- Medical Society of Virginia, Lynchburg, October 27, 28 and 29 (subject to change).
- New York State Medical Association, New York, October 28, 29 and 30.
- Louisiana State Medical Society (place and date to be determined).

NATIONAL ASSOCIATIONS.

- American Academy of Medicine, Washington, May 2 and 4.
- American Medical Association, Washington, May 5, 6, 7 and 8.
- National Association of Railway Surgeons, Buffalo, N. Y., April 30 and May 1.
- American Gynecological Society, Washington, September 15, 16 and 17.
- American Orthopaedic Association, Washington, September 15, 16 and 17.
- American Association of Andrology and Syphilology, Washington, September 22, 23 and 24.
- Congress of American Physicians and Surgeons, Washington, September 22, 23, 24 and 25; in connection with this congress will be held the meetings of the American Climatological Association, American Ophthalmological Society, American Otological Society and American Neurological Association.
- American Dermatological Association, Washington, September 22, 23, 24 and 25.
- American Surgical Association, Washington, September 22, 23, 24 and 25.
- American Laryngological Association, Washington, September 23, 24 and 25.
- Southern Surgical and Gynecological Association, Richmond, November 10, 11 and 12.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from February 21, 1891, to February 27, 1891.

Capt. Alonzo R. Chapin, Asst. Surgeon, leave of absence granted in S. O. 17, Dept. of Dak., January 31, 1891, is extended one month. By direction of the Secretary of War. S. O. 41, A. G. O., February 29, 1891.

Lieut. Col. Blencowe E. Fryer, Asst. Medical Purveyor, having been found incapacitated by Army Retiring Board, on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1251, Revised Statutes. Par. 15, S. O. 42, A. G. O., February 24, 1891.

The following named officers, having been found by Army Retiring Boards incapacitated for active service on account of disability incident to the service, are, by direction of the President, retired from active service at this date, under the provisions of Section 1251, Revised Statutes: Capt. B. W. Gardiner, Asst. Surgeon; Capt. Robert W. Shufeldt, Asst. Surgeon. Par. 12, S. O. 43, A. G. O., Washington, February 25, 1891.

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ADDRESSES.

PHTHISIS PULMONALIS.

An Address delivered before the King's County Medical Association.

BY WM. MCCOLLOM, M.D.,

OF BROOKLYN, N. Y.

THE RETIRING PRESIDENT.

I have chosen as a subject for the address which I offer you this evening, the very old and deeply interesting one of "phthisis pulmonalis," a subject which has, perhaps, occupied the attention of the profession and called forth more earnest, active effort for its solution for centuries, than any other subject in medicine; and yet its ravages have not been checked to any considerable extent, for it destroys more life in almost all countries than any other disease. The deaths from consumption in the United States of America are not less than 100,000 annually.

It is not that I have anything specially new to offer in etiology, prophylaxis or therapeutics that I select this as a subject of discourse, but a condensed review of what is more modern and practical, with suggestions based upon personal observation and experience as it relates to the general management of the disease, may be of interest to some of the members of this Association.

It is not my purpose to examine the various theories bearing on the pathology of consumption. That organization, anatomical and physiological peculiarities and inherited constitutional predisposition, are factors in favoring the development of tuberculosis, is evident beyond question. The dyscrasia of the scrofulous diathesis, inherited or acquired, with tendency to cheesy deposits, fits a soil for the growth of bacteria. In deference to popular opinion, we accept the teaching of Koch and other bacteriologists, that tuberculosis is the result of the life and growth of a microorganism in a soil favorable to its development. It is not proven, however, that phthisis pulmonalis is always tuberculosis. Clinical and pathological investigation seem to show that phthisis pulmonalis is sometimes tuberculous, and sometimes non-tuberculous.

I think most physicians who have had long clinical experience have, from time to time, observed cases of good family and personal history,

without predisposition inherited or acquired to scrofulous or tuberculous disease, come suddenly down, with cause apparent, from broncho- or croupous pneumonia, and pass rapidly into consolidation, caseation, disintegration and formation of cavities, general emaciation, progressive debility and death. Then we have the more chronic fibroid phthisis, the prime cause sometimes being from inflammatory pneumonic consolidation, and at other times from the daily inhalation of irritating particles of matter, metallic or earthy. This cause of phthisis has been productive of fearful mortality in certain employments.

While it is shown that numerous bacilli are present in the forms of phthisis which appear to have a specific cause independent of true tubercle, it is not proven that the bacilli found are the tubercle bacilli of Koch. Drs. Gibbes and Shurly, who have been doing good bacteriological work, consider the matter by feeding several guinea pigs with the sputum filled with bacilli from a case diagnosed as phthisis during life, but which an autopsy showed to have been a case of broncho-pneumonia, with disintegration of, and large cavities in lungs. The guinea pigs inoculated with matter swarming with bacteria, suffered from abscesses at point of inoculation, but none suffered from tuberculous.

We are not yet ready to accept the doctrine of the positive minds who have attempted to settle the question for all.

Germain Sée says: "The unity of phthisis comprises all acute and chronic manifestations. There exists no dualism between tubercle and caseous pneumonia; no distinction between tuberculous phthisis and inflammatory phthisis." We believe that this is still an open question.

If we grant that all pulmonary tuberculosis is the result of the action of the bacillus of Koch upon anatomical structure rendered vulnerable by reason of inherited tendency, the scrofulous diathesis, caseous pneumonia with cheesy deposits, lessened vitality with enfeebled circulation and respiration, we shall feel the importance of carefully studying preventive measures. Prophylaxis is all-important.

If we accept the teaching of Virchow and Niemeyer, that caseous pneumonia and miliary tuberculosis are distinctive diseases, and remember the

great liability to tuberculosis in the metamorphoses of tissue from caseous pneumonia, our course of action will be little influenced by the technical question.

Whatever the pathogenesis of tuberculosis may be, it is evident that the strumous diathesis is frequently the predisposing cause. The relation of the two conditions is too evident to be questioned, and as struma manifests itself, many times, in the earlier periods of life, and is often due to faulty dietetic and hygienic management, we cannot too much feel the vital importance of correcting a condition which warns of approaching danger; for when the specific microorganisms enter the blood, the corpuscles or leucocytes are destroyed in the unequal warfare of such enfeebled constitutional conditions.

Noxious microorganisms may, and do, enter the body without producing disease. Man is continually exposed to infection by the bacillus tuberculosis. Heller, from microscopical preparations, estimates that in a single expectoration, on an average, 3,000,000 bacilli are discharged. Sputa, swarming with bacteria, is deposited on walks, floors of cars, boats, school-rooms and public halls. Such sputa soon dries, forms a floating dust full of poisonous microbes to which all are exposed, but only a few of the many are susceptible to their influence. Microbes, when introduced into the system, may or may not result in structural change or disease; the soil may be favorable or unfavorable. It is not yet determined what the chemical conditions of the solids and fluids of the body are in, when the tuberculous cachexia is developed. The child may inherit the diathesis or predisposition to susceptibility to tubercular disease; yet, under most favorable environment, never contract tuberculosis. Cancer and syphilis are transmitted from parent to child. Children are born with these diseases well developed, but there is little evidence that tuberculosis is inherited—the diathesis is inherited, not the specific disease.

We do not fully understand what the condition of the system is, which we call the tubercular cachexia. It is probably something more than debility, lowered vitality, or anatomical defect, but a peculiar change in the fluids or secretions of the body which favors the development and destructive work of the tubercle bacillus when it finds entrance into the system. It has been observed in laboratory experiments that certain conditions are essential in cultivating bacteria.

Pasteur relates that when he used agar-agar with 4 per cent. of glycerine as a culture medium, the tubercular bacilli developed rapidly, but when he added 8 per cent. instead of 4 per cent of glycerine to the medium, the growth of germs ceased. Then may we not hope that, in the progress of scientific investigation and experiment, the definite cause of susceptibility to tuberculosis may be made

out, and means devised to destroy such susceptibility, and to render the tissues of the body unfit for the life and growth of these microorganisms?

It is probable that tuberculosis is sometimes acquired from the flesh and milk of tuberculous animals. The weight of opinion seems to favor this belief. It is the duty of physicians, individually and collectively, to influence, so far as possible, the Department of State Medicine, to create and enforce strict regulations against the spread of tuberculosis, so far as it can be done. I will not particularize how this should be done. The measures to be taken are important and varied, and suggest themselves to the physician and sanitarian.

Our duty as physicians, is the important one of guarding and guiding, so far as we can, the child, the youth and the man, against inherited predisposition to phthisis, as well as to correct, so far as possible, constitutional defects, and conditions of health leading to a susceptibility of danger almost ever-present. It becomes us to inquire what are the conditions which precede the infection, and the causes which produce the condition.

It is not my purpose to examine the various theories and alleged causes which precede tuberculosis, such as abnormalities of organization with faulty development of chest and lungs, and lack of anatomical and physiological balance in the vital organs, but to causes which are susceptible to influence by hygienic, dietetic and medicinal means.

The child and the youth with low vital force, with cardiac power below the average normal, with relatively small volume of lung and feeble respiratory system, will necessarily suffer from adynamic catarrhs, glandular congestions and inflammations, defective assimilation and nutrition, and this condition strongly predisposes to phthisis. The importance of nutrition as a preventive of consumption cannot be exaggerated; but with faulty organization and feeble respiratory function, how can good nutrition be maintained?

Physical training for the purpose of developing the chest walls and respiratory muscles, enlarging the volume of the lungs, thereby stimulating and developing the circulation of blood throughout the system, blood which has been more completely arterialized in the lungs, will do more than anything else to favor digestion, assimilation and nutrition. Training, systematically and perseveringly practiced, will often change the flat, narrow-chested, poorly nourished, feeble youth into the large-chested, ruddy, vigorous man.

The physiological-therapeutical effects of increased chest development with lung expansion and volume, thereby increasing the activity of intra-pulmonary circulation and oxidizing a larger number of blood corpuscles, renders active the nutrition of pulmonary tissue—not alone of pulmonary tissue, but a general tonic effect is pro-

duced upon the nervous system; digestion and cellular nutrition are improved; the vital power is raised, and alimentation, the most important element in the prevention and cure of phthisis, is increased.

All observers know that faulty nutrition and wasting usually precede phthisis. Dr. Horace Dobell, in his work on the "True First Stage of Consumption," gives expression to the belief that the wasting or inanition preceding tuberculosis should be considered as belonging to the first stage of the disease.

Next in importance to nutrition is vigorous circulation of blood, pure air and sunlight.

It was an interesting and instructive experiment made by a physician a little time ago—I cannot give his name or the date of the article—showing the influence of favorable conditions in preventing the development of tuberculosis. He inoculated, I think it was two dozen rabbits with the tubercle bacillus. One-half the number were confined in pens with not good chance for sunlight nor active exercise, nor with supply of food exactly suited to their wants. All died from tubercular disease. The other half were turned into a field, favored with fresh green grass, strong light, and opportunity for the freest exercise, with the result of only one falling a victim to tuberculosis; all the others remained healthy, notwithstanding the true tubercle bacillus had been introduced into their bodies. We should not forget this lesson, for it is in harmony with what has so often been observed in man. The vigorous and well nourished, with favorable environment, rarely fall victims to tuberculosis from infection when closely exposed, sometimes for years. Then let us remember that preventive measures must be in the keeping of the general health above the grade of susceptibility to the microbic influence; keep the soil unfavorable to the development and growth of bacilli.

The scope of this paper will not allow me to attempt to note all or many of the various dietetic and hygienic measures to be observed as contributing to the raising of the standard of health and creating an immunity from the disease.

Climatic influences are efficient aids in prophylaxis of phthisis. When, from hereditary predisposition, faulty anatomical and physiological condition, the thoracic cavity small, and respiratory power feeble, a change of climate should be made from the lower sea level to high altitudes.

An elevated, cool, dry region should be selected for such cases. In high altitudes, respiratory activity is much increased, and portions of the lung tissue little used on low levels, are brought into activity. Both children and adults who live in high mountainous regions have proportionately larger chests and lungs than those who live in low altitudes; this has been shown from repeated observation. Dr. Francis, of the Bengal Army,

states, after extended observation, that the lungs are smaller in Europeans in India than the European standard. The lesson from this is practical and should be kept in mind. Low temperature in high altitudes, with dry atmosphere, is most favorable. Cold stimulates to more active exercise, with increased respiration and blood circulation. The appetite for fatty, nitrogenous food is increased, foods specially adapted to the prevention as well as to the arrest of consumption. The spores of tubercular bacteria are tenacious of life, resist almost all influences for their destruction, maintain life for hours in water at the boiling point. Extreme cold and perfect dryness are without influence, then it cannot be claimed that high altitude has germicidal influence, but immunity, if it comes, is from improved physiological conditions.

Dryness and purity of the air are important, perhaps the most important, factors in prophylaxis. Air tested in the higher mountains of Switzerland showed no bacteria, while the same volume of air in Paris contained 7,000.

The atmosphere of high elevations is both drier and purer than that of low levels, and when free from microbes, it must greatly favor prophylaxis, and efficiently aid in the recovery from incipient phthisis. The air by the sea side, or in the valleys when sparsely settled, may be as pure and as clear, may be as favorable to the consumptive in the advanced stage of the disease as the rarefied air of high altitudes, though it is probable that the dry, rarefied air of the mountains is inimical, in some degree, to the development and growth of microorganisms.

Altitude in advanced consumption often acts unfavorably, particularly as it relates to the congestive, the hemoptoic, and the irritable conditions.

We have been too much inclined to send all cases of confirmed phthisis to certain localities according to the prevailing fashion, without carefully scrutinizing every condition likely to be influenced by denser or rarefied air, by temperature, by physical comfort and mental and emotional happiness.

It is all-important that the consumptive shall live an outdoor life, and the climate and conditions of the locality must be such that a life much in the open air can be enjoyed. While altitude has an important influence, the most recent study of the subject seems to show that the mortality from pulmonary phthisis is not exactly graded by elevation, though largely influenced by it.

Dr. Schroeter, carefully studying the exact official statistics of Switzerland bearing upon the mortality of consumption for eleven years, states: "The annual mean of deaths caused by pulmonary tuberculosis is 2.31 to 1,000 living inhabitants." In an altitude of 200 to 400 metres, there were 112 deaths from tuberculosis in 1,000;

from 400 to 700 metres, 105 deaths; from 700 to 900 metres, 106 deaths; from 900 to 1,200 metres, 92 deaths; above 1,200 metres, 71 deaths. The death-rate in great altitudes falls low, 71 in 1,000; but there are other influences than altitude of which we should not lose sight. Density of population, and industrial occupations indoors, greatly increase mortality. The higher elevations are more sparsely settled, and the people live an active outdoor life; this, perhaps, in itself would account largely for the difference in the rate of mortality in different altitudes.

The contagiousness of tuberculosis is now so well established, and the more common method of infection made so apparent from a careful study of the subject, that it requires little argument to sustain the statistical facts bearing on the question of prophylaxis, and as the methods of prophylaxis are the methods for the arrest of the disease in its early stage, they can not be too carefully studied.

Cornet, whose investigations have been extensive, and apparently carefully and scientifically made, concludes, that tuberculous consumption is very largely communicable by dried sputum, in the form of dust floating in the air, and taken into the air passages by inhalation. He accounts for the greater prevalence of pulmonary tuberculosis over other forms of the disease in this way, and questions whether the lungs have any especial predilection for tubercular infection.

Remembering how tubercular bacilli are most likely to gain access to the body, we should ever keep in mind the importance of avoiding the ordinary sources of danger.

Dr. Bowditch, of Boston, more than thirty years ago, in studying the predisposing and, as he believed, the exciting causes of consumption, showed clearly that the most common predisposing cause as it relates to climate and locality, is low temperature and humidity, with soil saturation; the most marked predisposing and exciting causes, other than cold and dampness, bad air from overcrowding and faulty nutrition. All subsequent study has confirmed the wisdom of this earlier teaching.

In the knowledge of the contagiousness of tuberculosis we more clearly understand that density of population and industrial occupations so largely increase mortality from phthisis. Then it would seem vitally important in the management of consumption, particularly in its earlier stage, when any hope exists for arresting its progress or effecting its cure, to radically change, so far as possible, all unfavorable environments so as it relates to climate, to habits of life and sanitary influences. Individuals living near the sea level should change to mountain regions and live an active out-door life if strength will permit. A larger portion of cases of advanced phthisis will do better in high altitudes, with cold, clear, dry

atmosphere than in warmer lower levels; but there are many exceptions to this rule.

The high, cold mountain region of winter cannot be favorable to the nervous, sensitive man or woman, who has led a life largely in doors, debilitated from disease. In those suffering from cardiac weakness, functional or organic, and of those of hæmorrhagic diathesis, such winter climate should be avoided.

In advanced phthisis with high and marked change in pyrexia, and much destruction of lung tissue, and in laryngeal phthisis, as well as in the old and the very young, a milder climate in winter must be advised.

Cases specially unfavorably influenced by the cold of high altitudes are those of defective heart power and specially sensitive to cold, and not of sufficient vitality to take active exercise out of doors; such cases are not likely to do well anywhere, but they are more comfortable, and perhaps live as long or longer in a warmer, denser atmosphere, particularly as it relates to the colder seasons. Too much stress cannot be put upon the importance of a life out of doors. I have repeatedly seen the most remarkable recoveries in unpromising cases from a life on the road by horseback or carriage.

A large proportion of cases of phthisis in the adult male feel the stern necessity of doing something for their support as long as it is possible for them to do so. Persuade the worker indoors to lead the life of a country peddler, or to go to the country, buy produce to ship to market, or do anything which will contribute to his support and keep the mind employed, and give him pure air and strong sunlight. Such a life, with frequent change in diet, gives appetite for better food and greatly favors digestion and nutrition. The skin grows brown and the blood redder, the mind happier in the sense of self-support, and hope and courage grow accordingly. The law of necessity often favors recovery. I have seen more cases do well when leading such a life for a livelihood than I have seen where fortune allowed a life of luxurious invalidism. It is folly, worse than folly to advise the sufferer to go to a popular resort for the consumptive when he has not, and cannot obtain the means for his support. It is cruel to allow him to feel that his life depends upon what he cannot have. It is not only important that respiration shall be carried on in free pure air all day, but all night as well; the day exposure favors freedom of air circulation at night.

It is not my purpose in this brief address to say much of the general management of phthisis, or to collate what has been said by master minds regarding it, but only to emphasize what seems to me most important.

In therapeutics we have made little advancement in the last thirty years, though pharmacy

has given us tonic combinations like the compound hypophosphites, more elegant and less objectionable to the taste and the stomach than the remedies and mixtures of earlier times. Arsenic is now more used than formerly and is an important aid in increasing assimilation and nutrition when judiciously used. Cod liver oil and fatty foods justly hold full favor when they can be assimilated. Medicinal inhalations, after much trial, have proved of little value.

Each case is a study in itself and treatment of individual cases must often widely differ. We have no specifics, and bearing in mind scientific experiment as it relates to the destruction of bacilli outside the body, we can dismiss as useless microbicidal treatment. All effort in that direction has proved futile and is more than likely to in the future.

Progress has been made in dietetics. The importance given to food more largely animal, and the methods of its preparation, like depriving beef wholly of its water and reducing the same to a powder so that it can be taken freely when meat will not be eaten, is a step in advance.

Predigested beef and milk and pancreatic preparations of fatty foods, so essential in wasting disease, greatly aid nutrition when digestion is impaired.

It is a noteworthy fact that tuberculosis is seldom found in carnivora living in their natural state; though wild beasts confined in cages and fed upon the flesh of domestic animals liable to be tuberculous contract the disease. Herbivorous animals are easily inoculated with the tubercle bacillus. Reasoning from analogy, we should expect to see less tuberculosis in classes living principally upon animal food, and this holds true.

In Iceland and the Faroe Islands, where the inhabitants live almost exclusively upon animal diet, consumption is almost unknown. Experience, I think, has shown that consumptives who can live largely upon animal food, meats, animal oils and fats, milk and eggs, do best. In the advanced stage of phthisis with high pyrexia, lessened volume of lung from destruction of tissue interfering with oxidation of heavy nitrogenous food, a simple diet of milk, soups, kumyss, malt extract, glycerine, etc., is indicated.

The dietetic management of phthisis is more important than the therapeutic, and should receive more careful supervision from the physician; he should supervise the feeding, the methods of nutrition, as fully as the medicinal treatment, and not leave the more important to the badly educated appetite of the patient, nor to the ignorance of friends and nurses. Feeding must be prescribed and nutrition enforced. A paper on "Food in the Treatment of Pulmonary Consumption," by Dr. Solis-Cohen, of Philadelphia, published in THE JOURNAL, February 8, 1889, is full of pertinent suggestions, clearly and forcibly stated.

Jaccoud's teaching, than which little is better, as it relates to therapeutical management, should be studied by the inexperienced practitioner, particularly the advice to avoid the use of cough syrups, opiates and palliatives, which lessen appetite, impair digestion and nutrition. His earnest recommendation to use persistent counter-irritation over diseased parts, to lessen cough instead of giving anodyne cough mixtures, is to be commended.

Something can be done to relieve harrassing cough and not disturb nutrition by the inhalation from respirators charged with volatile anæsthetic and antiseptic agents, like creosote, iodized carbolic acid, bromine, menthol and camphor mixtures.

There is diversity of opinion as to the use of alcoholic drinks in phthisis. Sometimes they are indicated and are efficient in creating appetite and promoting digestion and nutrition. Many will take a glass of good ale or porter with real relish and marked benefit. Others, females in particular, can take whisky in milk, or good, sound red wine at times with good effect, while in other cases stimulants are contraindicated; the appetite is lessened and digestion impaired from their use.

It will not be profitable to review what has been written relative to the method of treating tuberculosis by Prof. Koch. The literature upon the subject is now voluminous, but most of it is of little value. Sufficient time has not elapsed to determine whether or not it will be the method of the future for the treatment of pulmonary tuberculosis.

The later reports from the more competent experimenters are not specially promising.

If the creating of the so called lymph is so difficult, and its use so dangerous that it cannot be entrusted to scientific physicians of all countries, it will be a long time before the value of the discovery will be determined.

It is now six months since the announcement of an important discovery was made, and why should so much secrecy surround it? We cannot believe, as has been asserted, that it is for purposes of money-making by a great and progressive government, or that scientific physicians of worldwide reputation would join government officials in financial speculation in material only used in the relieving of physical and mental anguish, and in the saving of human life.

It is important that great care should be taken to have the matter tested by careful, competent men, but the production of the material and its use can be safely entrusted to other than German physicians.

In the giving out of the lymph for experimental purposes, the supply being limited, it was properly restricted to hospital use. The dishonest acquisition and use of it for personal advertisement in public print cannot be too severely con-

demned. No physician with sufficient self respect to regard the good opinion of the profession at large will allow himself to be advertised for personal gain in such a way.

The advertising physician is found in the hospital as well as in private practice, and "some of them are making good and ingenious use of the popular interest in the subject to bring their names into daily notice and prominence." Such practice, whenever it occurs, should be frowned upon.

ORIGINAL ARTICLES.

AN ANALYSIS OF THE STATISTICS OF FORTY-ONE THOUSAND FIVE HUNDRED CASES OF EPIDEMIC INFLUENZA.

Read before the American Academy of Medicine, Philadelphia, December 4, 1899.

BY BENJAMIN LEE, A.M., M.D., PH.D.,

SECRETARY OF THE STATE BOARD OF HEALTH OF PENNSYLVANIA.

It is not difficult to understand why, in the extreme south eastern portion of Europe, doubts should have been entertained as to the diagnosis of the disease, which during the past year has not only overspread that continent, but crossing the ocean, has swept over this country so generally and attacked the population so universally that we are justified in calling it a *pandemic*.

It is evidently due to the fact that one of the prominent symptoms, which is, however, by no means an essential symptom, namely: coughing and sneezing, indicating catarrh of the air passages, has been mistaken in the minds of the people, and to some extent also of the medical profession, for the disease itself. To such an extent is this true, that one medical author of considerable reputation has designated it *Epidemic Acute Bronchitis*.

The first intimation which we had of its presence in Europe was that all St. Petersburg was coughing and sneezing. And so, for many weeks, almost the only references to the spread of the disease on that continent contained allusions, usually of a jocular character, to this peculiar feature of a certain proportion of the cases. People appeared to look forward to its appearance on this side the ocean as an experience, which, on the whole, would constitute a mild amusement, rather than an occasion of suffering, distress, terror and death. A very few weeks, however, sufficed to convince both the public and the profession that influenza meant a good deal more than a bad cold in the head.

Discovering this fact, and observing the serious involvement of the nervous system in a large percentage of the cases, the inquiry suggested

itself to those who were looking for nothing more than a bronchial catarrh, "Is this influenza after all, or is it some other epidemic disease, and if some other, is it not dengue?" It is true that this misconception prevailed to a much greater extent in Europe than here, and especially was this true of the extreme East, Turkey, Greece and Austria. It may not be out of place, however, to outline the distinctive features of the two affections, not so much to enable the most of us who are present to make the diagnosis in our practice, since dengue is almost exclusively confined to hot countries, but in order that, hearing of the prevalence in Europe or Asia of an epidemic disease having a similarity to either affection, we may be able to determine its character in our own minds, and hence, the necessity for expecting its advent in this country and for forewarning the people,—or the absence of any such necessity. Certainly if our health authorities had possessed the knowledge of the character of the disease, and its rate of progression geographically, in the Autumn of 1889, which they now possess, they would have been enabled to issue—and it would have been their duty to issue—precautionary circulars, notifying the people that, at about such a time, it might be expected that from one-fourth to one-sixth of the population would be so prostrated, that they would be more or less incapacitated from attention to business, and that it would be the part of wisdom for those who found themselves attacked with the disease to give up work at once and secure medical advice. People could then have arranged their affairs in advance to meet the emergency, and many lives of those who kept at business after they ought to have been in bed, or returned to business when they ought to have stayed in bed, might have been saved.

The first point of distinction that we may make is in regard to the mode of extension of the two affections. Influenza, as we have had recent demonstration, spreads like a flood, inundating whole sections in an hour, while dengue works along gradually, establishing centres of infection here and there, enabling its course to be easily traced. In their sudden onset, intense headache, pain in the back and limbs and excessive lassitude they have much in common, but, while the fever in dengue is invariably of a high grade, in influenza it is often slight or absent altogether. The catarrhal and pneumonic complications of influenza, the dyspnoea, the feeble piping voice, are very rare in dengue, while on the other hand, the latter is characterized by violent and persistent gastric disturbances.

An erythematous eruption followed by desquamation, beginning in the face and descending, is rarely absent in dengue, and as rarely seen in influenza. Dengue very rarely terminates fatally, influenza, as we know to our cost, often does.

While, therefore, there are points of similarity between the two affections, especially in regard to their nervous phenomena, the distinctions are sufficiently marked to prevent any misconception, when large numbers of cases are under consideration.

To refer now to the history of the disease in our own country:—sporadic cases appear in our tables during the month of November. One accurate observer in Philadelphia reports a case in July. Without discrediting his diagnosis we can scarcely consider this case as due to the epidemic influence. What we are accustomed to call influenza colds, we may meet with at any time, and we are all familiar with circumscribed epidemics of influenza of a mild type. Other physicians report cases probably to be classed in the same category in September and October. About the tenth of December it began to exist epidemically on our seaboard. It was prevailing sufficiently to attract general attention in Philadelphia, by the 20th of that month. The disease began to appear as an acknowledged factor in the mortality tables of the city on the 4th day of January, when one death is recorded from the disease. An increase in the number of deaths from inflammation of the lungs, however, from thirty-three in the week previous to seventy one in the first week in January, sufficiently indicates that the epidemic had become fairly seated. It spread with a rapidity which is scarcely conceivable, and gained in intensity as the numbers of its victims increased. By the 23d of December, it was estimated that there were 2,000 cases in the city. On the 9th of January, 6,000 of the pupils of the public schools were reported as prostrated with the disease. The number of deaths increased the first week in January, from 404 in the week previous, to 492. In two weeks it reached the startling figure of 770, more than twice as great as the mortality of the corresponding week of the year 1888. The over-worked physicians were prostrated both by fatigue and by the disease itself, and many succumbed finally.

Business was now almost at a standstill. In several instances places of business or manufacture were compelled to close for want of hands. Whole families were confined to the bed at once, so that neighbors were obliged to provide them with food and nursing care. This week, ending January 18, marked the high tide of the pestilence in Philadelphia so far as mortality was concerned, the city death-rate having fallen to its norm by the end of February. In the meantime the epidemic influence had spread like wild-fire, literally "on the wings of the wind" throughout the entire State. On the 27th of December the disease was rife in Lancaster, and genuine cases had appeared in Pittsburgh on the extreme western border, and Wilkesbarre on the northern border of the State.

It is probable that not a single individual entirely escaped its pernicious effects. Its manifestations were so various, affecting in one the bronchial tubes, in another the nervous system, now the brain and now the bowels, here peritonitis and there pneumonia, that it was a long time, comparatively, before physicians, even, recognized it in its protean forms. It is scarcely conceivable that a disease which spreads with such astonishing rapidity, goes through the process of re-development in each person infected, and is only communicated from person to person or by infected articles. And yet this theory has been maintained by a few authorities who claim that it is always more prevalent along lines of travel, and that it did not progress more rapidly than modern means of communication would enable it to do.

Whatever theory we may adopt of its means of propagation, it was felt by the writer that an affection so fatal in its results and so widespread in its domain possessed an importance which entitled it to especial study. He therefore prepared the following circular, cyclostyle copies of which, to the number of more than seven thousand were distributed to the members of the medical profession throughout the State of Pennsylvania:

Dear Doctor: I am desirous to obtain reliable statistics in regard to the recent pandemic of influenza as observed in this State. Will you, therefore, kindly furnish the information called for below, by filling up the blanks from the data in your visiting list or note book and returning the sheet to me as early as practicable?

Yours very respectfully,

(Signed) BENJAMIN LEE, M.D.,
Superintendent of Vital Statistics.

Residence—County—Date of first case—
Number of cases—Adults—Children—Pre-
dominant type (nervous)—(Catarrhal)—Inflam-
matory)—Number of deaths (Directly caused—
(Indirectly caused)—
Immediate cause of death: Bronchitis, Adults—
Children—; Pneumonia, Adults—Children—;
Phthisis, Adults—Children—; Nervous affec-
tions, Adults—Children—.

Up to the 1st of May, 4,500 of these letters had been sent out.

The following is an analysis of the results obtained at that date:

Number of physicians reporting	265
Number of cases	37,275
Adults	26,302
Children	10,973
Number of cases nervous	6,913
Number of cases catarrhal	16,434
Number of cases inflammatory	5,829
No. of deaths directly caused, 561	261
No. of deaths indirectly caused, 2051	
Immediate cause of death, bronchitis,	8
" " " pneumonia,	117
" " " phthisis,	42
" " " nervous,	21

Supposing, which there is no reason to doubt, that the 265 physicians who replied, represent a fair average of the practitioners of the State, this would give us 1,120,000 persons as having been

sufficiently ill with the disease to demand medical aid or come beneath the observation of a medical man, and 7,879 deaths directly or indirectly caused by the epidemic influence in the State of Pennsylvania alone. We know that there were many who suffered mild attacks who never sought advice, and many more whom physicians, in their excessive haste, failed to enter on their visiting lists although they may have prescribed for them.

In fact this is exactly the return that was made in some instances:

"Treated an immense number of cases but kept no record."

Nearly one-half of the cases reported were in the city of Philadelphia. As the Philadelphia physicians reporting constituted only about one-third of the whole number, the disease must therefore have been more prevalent in large cities than in the country. To be exact, the average of cases to each physician reporting was 140; while the average to each Philadelphia physician reporting, was 193.

The disease seems to have been especially prevalent in mining towns. Two physicians in Shamokin, a place of about 12,000 inhabitants, report 950 cases between them. In Greensburg, a place of about 6,000 inhabitants, two physicians report 737 cases. In the little village of Portage, Cambria County, numbering 650 inhabitants, one physician reports 400 cases. Ill-fated Plymouth suffered seriously as did the other mining towns and villages of Luzerne County. Scranton was also severely visited.

One curious fact developed by the investigation is that the disease was observed quite as early in the extreme western portion of the State as in Philadelphia on the eastern border. Indeed more observers in proportion to the population report having observed cases in November in Allegheny County than in Philadelphia County; as though a disease bearing air current had passed over the eastern border at a great altitude and dipped down in the western portion of the State.

Of the 265 physicians reporting 206 made the distinction as to the predominant type of the disease. While it is to be regretted that all did not, still this number, representing more than 29,000 cases, is ample for purposes of deduction.

Nearly 7,000 of these are recorded as belonging to the nervous type. This is very nearly 25 per cent, and does not, of course, preclude the presence of nervous symptoms in a large proportion of those set down as catarrhal or inflammatory. And this takes us back to the point from which we started, namely the marked predominance of the nervous element and the protean character of the manifestations in this singular affection. How shall we account for

the production of such varied morbid phenomena by a single morbid agent.

Some writers, among whom may be mentioned Dr. Dixon, of the University of Pennsylvania, attempt to explain it by saying that the disease lowered the vitality of the cells of the various tissues so that they were no longer able to resist the onslaughts of the microbes of the various diseases, and that any that happened to be present found an entrance and developed their peculiar affection. Others, as Dr. Baker, Secretary of the State Board of Health of Michigan, consider that the atmospheric condition affected the lining membrane of the air passages in such a way as to make it easy for the ever present germs to find an entrance into the blood; and, as in the first mentioned theory, that each produced its characteristic chain of symptoms.

One great obstacle to the acceptance of these theories is the fact, that they require the existence of a great number of microbes of which we have no knowledge.

To the writer it seems more rational to suppose that the morbid influence, whether germ, microbe or occult meteorological departure from the normal condition, spent itself directly upon the nervous system, and more particularly on the vegetative portion of that system, or to particularize, still further, upon the pneumogastric nerve and its associated ganglia with partial implication of the spinal cord. Nearly all phenomena which distinguish influenza from other similar affections can be readily accounted for by this theory; the excessive nervous prostration, so entirely out of proportion to the catarrhal disturbance, the emotional depression, causing the victim to weep incessantly without consciousness of any reason for so doing, the sense of constriction about the larynx, the strident cough, piping voice and occasional aphonia, the sudden congestions of the lungs, the pain and stiffness in the dorsal muscles, especially along the nucha, the gastric and intestinal disturbances, the intense headache, and transient manias, all can be accounted for by the supposition that the great balance wheel of organic life has become deranged—and on no other theory so simply.

The fact that all the remedies which were found most beneficial in the treatment of this affection are nervines, such as phenacetine, morphia and nux vomica may also be adduced as strongly confirmatory of this theory.

1532 Pine St., Philadelphia.

A VERDICT of \$100 damages has been given against a London chemist who supplied ammonia when sal volatile was asked for. The plaintiff, an actress, was said to have been prevented from following her engagements for nine days as a result of the mistake.

NOTE ON THE BATH TREATMENT OF TYPHOID FEVER.

BY SIMON BARUCH, M.D.

OF NEW YORK

PHYSICIAN TO THE MANHATTAN GENERAL HOSPITAL AND NEW YORK JUVENILE ASYLUM.

In the article "Has progress been made in the Medicinal Treatment of Typhoid Fever?" Dr. T. J. Happel, after reviewing the various methods of medicinal treatment, goes out of his way to attack the Brand Treatment (which certainly is not a "medicinal" treatment).

I feel called upon to say a word in defence of the bath treatment which he dismisses so summarily. "The bathing must be begun early," says the author (p. 811) in quoting the directions I gave in a review before the Academy of Medicine, "even before a diagnosis can possibly be made. I would suggest that the longer before a diagnosis can be made, the bathing is begun, the greater the per cent. *me judice*, of cures, because the greater the number of febriculae and simple continued fever cases you are apt to have to treat."

It does not seem to have occurred to this gentleman that men like Ziemssen, Juergensen, Vogl, Brand, Tripiet, and other eminent clinical teachers are as capable of making a diagnosis of febriculae from typhoid as he is, and that they do not regard a case as typhoid unless it runs its characteristic course.

Again, this author says (p. 811): "If we wait until we are fully satisfied that we have a case of typhoid fever, we will find that Brand's method will offer no advantage over former methods of treatment." This positive dictum of the author would presuppose that he has given these methods a fair trial, which I greatly doubt, on account of the horror he expresses of the Brand method. Moreover, I deny that "its advocates must admit that it is as yet *sub judice*."

In discussing this question I have been careful not to obtrude my own personal experience, although it extends over twenty-eight years in military and civil, private and hospital, village, country and city practice, North and South. The experience of one individual is valuable only as a part of the aggregate, *unless it be very large*. Such an experience we have obtained from Vogl, the chief of the garrison hospitals of Munich. As this is only confirmatory of Brand, Ziemssen, Juergensen, Struempell and others, and as he is not the originator of the method, we may in all fairness accept his statements as positively free from bias, and incontrovertible. Vogl tells us that he was led to abandon all other treatment of typhoid fever, in favor of the cold bath, by studying the records of the institutions under his charge for forty-seven years. During this period every method in vogue had been applied in 8,325

cases of typhoid fever. The various types of disease are clearly pictured in his work, giving symptoms, complications and pathological changes. From venesection to nihilism, and, later, antipyretics and baths; the gamut was run as was the fashion at different times. Since 1868 the bath treatment has been used in 889 cases; alone in one station and combined with antipyretics in another, with the following results:

	Combined Treatment.	Pure Bath Treatment.
Mortality	6.7 per cent.	2.7 per cent.
Average hospital stay	40.7 days.	47.3
Per cent. complications	102	65.2
Average number diarrhoeas per person per day	1.9	0.7

The mortality under the old treatment ranged from 40.3 per cent. down to 7.6 per cent. These figures will, I trust, convince your readers that Dr. Vogl did not mistake febriculae for typhoid fever, and as they only sustain the verdict of a large number of equally capable and honest hospital physicians, they demonstrate that the superiority of the bath treatment is not, as your author supposes, "still *sub judice*." Medical statistics are proverbially unsatisfactory, but if ever they approach exactness, these of Dr. Vogl are an instance; for here we have a military hospital, under various administrations during forty-seven years, treating exactly the same class of patients, soldiers of about the same age, previously in good health, having the same employment, the same food etc. Surely no better data for a comparative estimate of a question in medicine can be imagined. And yet the author has the temerity to tell your readers, "I enter a protest that the mortality of typhoid fever cannot be reduced to 3 per cent. by any such procedure, but that the errors in diagnosis account for the vast discrepancy!"

Upon another point I must take issue with the author when he says: "Antifebrin given in such doses as the patient is found to bear, will accomplish in one hour what is effected by the Brand system in three times that length of time." If the author had ever tried a genuine Brand bath he would have discovered several errors in this proposition, the principal one being that the effect of the bath upon the temperature and pulse is obtained, not in "three hours" after the bath, but in fifteen minutes. If the author had studied recent developments in experimental therapeutics, he would also have known that Lépine demonstrated in the Paris Congress of Therapeutics in 1888 that antipyrin and antifebrin lower the vitality of the protoplasm, that they convert the hæmoglobin and attack the cell structure and destroy the red blood corpuscles. It was generally accepted that they undermine every organic function, hence they are dangerous in a disease recovery from which depends upon their integ-

¹ In the Journal of the American Medical Association, December 6, 1890.

city. Vinay also shows that they diminish the excretion of urea and nitrogen. That this is not mere theory is proved by the almost unanimous verdict against the use of antipyretics in typhoid fever, given by the American Association of Physicians in 1887, and in favor of the bath treatment by the Wiesbaden Congress of 1885.

I agree with the author upon one point, viz., the Brand bath requires a considerable outlay of trouble. But when we consider that it saves the involuntary soiling of beds, the muttering and wild delirium, the frequent diarrheas, and, above all, that it saves enormously in mortality; that it abbreviates convalescence and cheers the family and friends, the latter, even in the country, will not be averse to the additional trouble for fifteen minutes every three to six hours. The water need be changed only once in twenty-four hours, unless the patient soils it. If it cannot be executed with precision, the nearest approach must be made, just as we, who have practiced in the country, were so often called upon to do.

My friend, the late Dr. Trantham, of South Carolina, once did a craniotomy with a jack knife, and did it well. In my experience, country physicians, many of whom I have in former times met in consultation, are the readiest men, most full of resources, whom I have ever met. They will not fail to invent some means by which they will nearly substitute the Brand method. If they can accomplish it, those living in towns and cities will not fail to do so. In *Gaillard's Medical Journal* for January, 1891, such methods are fully given, as I have found useful in the past. The principles of the bath should always be borne in mind. *A temperature of the water not below 65° nor above 70°, duration ten to fifteen minutes, constant friction of the surface.*

There are many points in the paper of Dr. Happel which tempt me into criticism, but I have referred only to the most salient point of his argument, which seems to be a denial of the mortality reducing value of the bath-treatment upon the ground that "errors of diagnosis account for the discrepancy." The untenability of the argument (?) is proven by Vogl's plain statement of the duration and complication of his cases, and the results.

47 E. Sixtieth st., December 11, 1890.

KOCH TREATMENT OF TUBERCULOSIS.

BY SOLOMON SOLIS-COHEN, M.D.,
OF PHILADELPHIA.

In the Polyclinic evening lecture course, February 17, Professor Solomon Solis-Cohen reviewed the published records of cases treated by the method of Koch. He stated his continued disbelief in the etiological rôle ascribed by the ma-

jority of cotemporary writers to Koch's bacillus. The work of Dr. Heneage Gibbes was highly commended, and close attention asked for the facts brought out. The close association of Koch's bacillus with certain forms of the diseases called tuberculous, and its possible determining influence in the destructive outcome of the lesions, were admitted by the lecturer. But the actual disease in the preponderance of cases he found in that condition of system or cells which permits the bacillus to find pabulum in the tissues. Given this condition, the reaction between the tissues and the bacillus gives rise to some product which destroys tissue. If we produce this substance outside the body and inject it, we destroy tissue more quickly. This is what Koch's method does. The poison or poisons—ferment, toxine or whatever it or they may be—generated by the mutual reaction of the bacillus and the tissue, being dissolved in glycerine is called "Koch's remedy," and is injected. In subjects of tuberculous disease it causes the process to become more rapid. The affected tissues dying, the microbes are deprived of food and starve to death. If the lesions are external the dead tissues are cast off and temporary recovery takes place. But the condition of the remaining tissues permitting them to succumb is not cured unless this is accomplished by other means, and relapse, that is to say reinfection, may occur at any time.

When the affected tissues are not external, even if only slight lesions exist, the inflammation, ulceration and hæmorrhages produced may be fatal, as in the cases reported by Chiari, Virchow, Fraenkel and others. In other words, a case that might last months, or even years, completes its destructive course in a few days or weeks. Even in external cases in highly susceptible patients, rapid spread of the disease may result, as in Fraenkel's case of tuberculosis of the tongue. Cases have been reported also in which after the injection bacilli were found in the blood. In the meninges or the brain the local reaction is almost sure to have fatal results by compromising important structures. In the larynx occlusion from local reaction may necessitate prompt tracheotomy. In cases with extensive pulmonary cavities further destruction means immediate death. It is only fair to Koch to recall that the counter indications in cerebral, laryngeal and extensive pulmonary tuberculosis, were pointed out by him.

It is claimed that reaction occurs only in subjects already tuberculous.

Dr. Cohen doubts this. He points out that human beings may clinically be divided into three groups: 1. Those highly susceptible to tuberculosis. 2. Those moderately susceptible. 3. Those insusceptible. The first and second groups are subject to many subdivisions which need not be considered in detail in this connection, and individuals of the third group might under pecu-

liarily depressing environment acquire temporary susceptibility. If Koch's virus be injected in moderate quantity in a nonsusceptible person, no harm might result. If injected in a highly susceptible person, even if he had not already acquired the disease, the injection would probably give it to him. The reaction proved not the previous presence of the disease, but the susceptibility of the patient, and possibly the acquirement of disease from the injection. Its diagnostic use is like setting fire to a house in order to find out if the house is fireproof. It might be fireproof—in which case no harm would be done—but then again, it might not. One further danger, the speaker said, had been illustrated in a case not yet reported, of which he had personal knowledge. The patient had both laryngeal and pulmonary disease, and most probably would have perished in the natural course of events, after a somewhat more prolonged illness. The point to be made, however, was independent of the actual condition of this patient. Death occurred after profuse hemorrhage. Old and unsuspected cicatrices had broken down in the lung, and while recent lesions had been apparently favorably influenced, death had occurred from extensive destruction of the salutary work formerly accomplished by nature, unaided. This seemed to indicate that in subjects of a certain degree of susceptibility, tubercular formation might go on to fibroid change, the bacillus being unable to bring about necrosis; but by injection of the necrosis-poison the fibroid tissues, being still weaker than normal, might succumb, and a patient whom nature was curing, be slain by art.

Moderate susceptibility was proved by the existence of lupus for many years, or of certain joint lesions, or glandular lesions for many years, without fatal involvement of important organs. The fire was there but it only smouldered. The house then was partially fireproof. In these cases it might be very good practice, where it was impossible to thoroughly cut away the smouldering portions, and where they were favorably situated for this purpose, to cause them to burn out quickly and thus limit danger of further spread. Hence Dr. Cohen believed the Koch treatment justifiable in chronic lupus and chronic joint tuberculosis of long standing, without serious visceral involvement. The chronicity of the disease proved that the patient was only moderately susceptible. It might, and did, in joint cases, at least, require surgical aid to remove the debris.

In lupus or joint lesions of short standing, however, other measures should be used at first, and only after these had failed and time had proved comparative insusceptibility of viscera should the Koch remedy be used. A case recently reported of death in a girl of 17, with lupus, after one injection of two milligrams, was cited in support of this position.

Dr. Cohen said in conclusion that in incipient phthisis the remedy was not needed. Food and air, with exercise and rest appropriately alternated—in other words *nutrition*, with the aid of creosote, iodoform and a few other drugs at suitable times limited the spread of the disease and brought about recovery in all cases where recovery was possible. Those highly susceptible did not recover, but had their lives greatly prolonged. Injection of iodine or other medicaments, as recommended by Dr. Shurly, might prove to be of assistance. The speaker was now making some observations with Shurly's method. In acute miliary tuberculosis, or in chronic phthisis with large cavities, Koch himself had said that his remedy was counter-indicated.

Dr. Cohen therefore limited its use to appropriate cases of lupus and joint-disease, or other external lesions whose course and duration proved the patient to be only moderately susceptible. It had been said that the death-rate was only 1 per cent., 85 cases in 8,500, but what physician would dare to prescribe opium, arsenic, or even quinine indiscriminately, if it killed one patient out of every hundred? Furthermore, if the proportion of deaths to injections in phthisis alone were considered, it would be found to reach a far more alarming percentage. For the present, at least, he did not hesitate to declare the use of Koch's remedy in phthisis a practice full of danger.

THE CLINIC.

A CLINICAL LECTURE ON INSANITY.

Delivered at the Insane Hospital, Dunning, Ill., to the Students of the Woman's Medical College of Chicago.

BY DANIEL R. BROWER, M.D.,

PROFESSOR OF DISEASES OF THE NERVOUS SYSTEM, DIDACTIC AND CLINICAL, IN THE WOMAN'S MEDICAL COLLEGE; PROFESSOR OF MENTAL DISEASES IN RUSH MEDICAL COLLEGE; PROFESSOR OF DISEASES OF THE NERVOUS SYSTEM IN POST-GRADUATE SCHOOL, CHICAGO, ILL.

[Reported by ELIZABETH H. TROUT, M.D., Assistant to the Chair of Nervous Diseases, Woman's Medical College, Chicago.]

Case 1. Melancholia.—The delusions of melancholia, as we have told you, are of a very depressing character. This woman, you will see at a glance, is perfectly miserable. Her delusions are of the religious type, as they frequently are. All varieties of this disease have the fundamental character of melancholia, viz.: the depressed emotional state, as their essential feature.

The temperature in this case is normal, which is unusual. In acute melancholia the temperature is generally below normal.

Case 2.—Here is a case showing the characteristic position that these patients assume in the early stage. The head is bowed upon the chest, the eyes drooped, the expression thoughtful. She is apparently in deep meditation. She evidently

has some weighty matters on her mind. She never speaks. Her temperature is depressed, as is usual in these cases. After the melancholia has existed for some time, if the patient becomes excited the temperature will not be subnormal. An interesting feature of this case is, that it is the outgrowth of lactation. We have connected with the life of woman the insanity of pregnancy, of the puerperal state, and of lactation. The insanity of lactation usually manifests itself as is illustrated here. The delusions are of a depressing character. The insanity of pregnancy is usually of this type also, while that arising out of the puerperal period is generally maniacal.

The depressing influences surrounding the pregnant state, and the physical exhaustion resulting from lactation, have doubtless a great deal to do with these cases assuming this type of insanity. Women in these conditions suffer from insomnia, impaired appetite, disturbances of digestion, etc. There are many important etiological factors. The prognosis is less favorable than that of mania.

Cases 3 and 4. Mania.—Here are two cases of puerperal insanity, usually so called if it occurs during the first six weeks of parturition. It is a form of mania. Note the difference in expression and attitude from the cases we showed you a moment ago. The head here is held up; see the constant play of the facial muscles and the activity of the entire body. The delusions of these cases are of the happier type: expansive delusions. The circulation is quickened, the pulse is 120. Note the contrast to the absolute rest and quiet of the cases of melancholia just shown you. The insanity of the puerperal period is the most fortunate form of insanity to encounter. The proportion of recoveries is about 80 per cent. They are to be treated by such remedies as will control the violence of their activities, and depress their nerve centres, and by nutrients and eliminants. These patients must have a large amount of food and rest. Eight or nine hours of the twenty-four should be spent in sleep, and to produce this, some form of narcotic should be given: chloral or sulfonal. The latter acts well in many cases. You must give some sleep-producing agent that will accomplish the result without too much depression of the circulation. Sulfonal is not commonly a cardiac depressant, and does not usually interfere with the nutritive processes. The deodorized tincture of opium is often beneficial. Preparations of morphia are sometimes very valuable in these cases. Some of the opiates will produce sleep better than such depressants as bromides or chloral. Tonics are to be administered judiciously: preparations of malt, iron, strychnia, quinine and the hypophosphites. The food should be of a very nutritious character and easily digested—milk, eggs, beef extract, etc. You must bear in mind the fact that the exciting cause may be in the uterus or its appendages; as subinvolution or partial in-

version. In fact, you should examine carefully every organ in the body and correct, if possible, any departure from the physiological standard.

In melancholia we find a sluggishness of the alimentary tract. These patients need laxatives much more than do the manias. The aloetic purgatives are the most useful here. The food also in melancholia should be easily assimilable, and if the patients refuse to eat, as they frequently do, no time should be lost in resorting to artificial feeding. The nutritive processes are very much disturbed, and to allow these patients to go without food would be very injurious. The prompt use of forced feeding, in some cases, hastens the return of the physiological habit. The medicine can be administered at the same time. The proper treatment of lithæmia and allied conditions, if present, should be prompt, and may be remedial. Patients whose temperature is subnormal should be kept in warmer apartments than those of the sthenic type. These patients need cardiac and general stimulants also.

Case 5.—Here is a case of acute mania of three or four months' duration. The facial expression is one of pleasure. The activity of the muscles of the face and body is very great. The circulation is quickened. The delusions are of the expansive type, as with the puerperal cases.

Case 6.—This is also a case of mania. She has been in this condition a long time, she is a kleptomaniac. The tongue is coated, digestion disordered, the pulse quickened, but not to the same extent as in the case just shown you. You will also notice that the activity of the muscles is not so great.

Case 7. Chronic Melancholia.—I will call your attention in this case, to the peculiar appearance of the finger-nails. Fothergill calls it the "gouty finger-nail." It is well shown here; it consists of rough, somewhat irregular, whitish ridges, running longitudinally. You will also notice in this case the discoloration of the hands and feet, due to some error of the circulation. The hyperæmia is probably due to degeneration of the blood-vessels. These defects accompanying insanity are very interesting. They serve to teach us an important fact, viz.: that insanity is a disease of the whole organism; no person can be insane without having more or less disturbance of the whole organization. "A person who is insane is insane to his finger ends." Such is the intimate connection between the brain and the periphery, that it is impossible to have an amount of disturbance of the brain sufficient to produce insanity without great physical or constitutional disturbance, and more or less want of nutrition all over the body. To find a person of insane mind with a perfectly healthy organism would be an impossibility. The "Fothergill finger-nails" show disturbed nutrition and a defective circulation. The temperature is subnormal, and her de-

lusions are of the most depressing character. The peculiarity of the mental disturbance in this case is that the woman does not talk at all. It is a case of chronic melancholia of many years' standing. There is considerable malformation of the head here, excess of development of the left side compared with the right. These defects are very common, especially in monomania. Take a picture of first one side of the head and then the other, and you have really pictures of two individuals.

Cases 8 and 9.—Here are two excellent cases of chronic melancholia. You see that they assume the characteristic attitude: the head bowed upon the chest, the hands resting upon the knees. They also show the disordered circulation, the peculiar disturbance so common in these cases; a congestion of the capillary system. I presume that for a pathological basis in many of these cases there is a similar condition of malnutrition of the brain, such as you see so well marked in the hands of these men.

Melancholia remains as such for many years. All cases both of mania and melancholia are tending either towards recovery or towards that other form of insanity to which we called your attention a few days ago, dementia. Both these cases are nearing the latter type. This condition is recognized by the loss of memory, the untidy habits, etc. These patients become more and more slovenly until finally they cease to pay any attention to their personal appearance, and become exceedingly negligent and dirty in their habits. During the active stage they are simply depressed, they have the same mental capacity that they ever had, only they are under the influence of their delusions. What is simply functional in the beginning becomes organic. The brain cells are slowly destroyed, they atrophy, and these people literally lose their minds and become demented. This we call secondary or terminal dementia. These cases are all more or less hopeful until the memory begins to fail; when this occurs and dementia is established there is no possibility of recovery.

Case 10. Monomania.—Here is a case with a fixed and limited delusion. This woman is under the impression that she is engaged and is to be married. She prepared her trousseau. There is no rational basis for her delusion. The man she expected to marry was ignorant of the whole affair. Along with this form of insanity that takes the neurotic character, there are certain physical defects. These cases have been recently termed "paranoias." They come into the world physically defective, but their mental derangement is not usually manifest until puberty. The mind is enfeebled, but they are not imbeciles; they may possess considerable influence. Their delusions are systematized and are often of the exalted type, in the way of pride or grandeur. In this case

there is no physical defect apparent, and outside of this one delusion, she seems to be all right. These cases form a large percentage of insanities. It is an embarrassing class, as it is difficult to apply the tests of insane delusions. You will often be perplexed as to these cases of monomania. Mahonnet was one, Peter the Hermit, who led the Crusades, was probably another, Guiteau another. The man who shot at Edwin Booth was probably one also. His delusion was that Booth was his father and was neglecting him; acting upon this, his whole life was shaped at redress. He followed him about from place to place, annoying him greatly, and finally shot at him in McVicker's Theatre, in this city. Outside of this particular line of mental derangement, he seemed to be perfectly rational. He imagined he possessed great dramatic ability, and endeavored to secure an engagement with one theatre company or another. These people frequently have the power of hiding their delusions; you may study them for weeks without finding them out.

Cases 11, 12 and 13. Epileptic Insanity.—Here are three epileptic cases. Epilepsy is a disease of the brain. All epileptics are drifting towards insanity. It is a possibility with any of them, although it occurs much more frequently with the petit mal type than it does with that of grand mal. Petit mal attacks are just as serious, if not more so, than grand mal, on account of the frequency of their occurrence. A patient will have several of these attacks of petit mal in one day, thus keeping the brain in a state of commotion. Insanity that grows out of epilepsy is most perplexing. All these insane epileptics have defective inhibition. They are impulsive, liable to sudden outbursts. In the interval between their attacks they are often the most useful people in the hospital—kind and industrious. During their paroxysms they are often very dangerous. These epileptic manifestations are usually preceded and followed by a state of excitement. Irritability and epilepsy go hand in hand; almost all these cases are irritable above the average person, they are also vacillating. They are the most unsatisfactory patients the physician has to deal with. They will be under your treatment for awhile, then get discouraged, and travel from one doctor to another. They lack fixedness of purpose, are irritable always, and may be exceedingly violent during their paroxysms. This case shows well the asymmetry of the face, and also a deformity of the chest.

Case 14.—Here is an interesting case of epileptiform insanity showing discoloration of the face—"argermism." This is caused by a persistent use of the nitrate of silver. He took the drug for five or six years. In using this drug it should never be administered for more than three months at a time, and the amount given should not exceed 90 grs., 1 gr. per diem. This will produce

whatever benefit is to be derived from the drug. After a long interval you can repeat the treatment. In this case no benefit was derived from its use, nor is there any to be expected except in those cases that are stomachic in their origin.

Case 15. Hemiplegia.—This case you see has lost the power of the arm. There is some contraction of the fingers and also of the foot. There is also exaggerated patellar tendon reflex, and aphasia. She understands perfectly well what she wants to say, but she cannot say it. It is a case of amnesic aphasia; the power of speech is lost because of the loss of memory of words. Articulation is not lost. The doctor tells us that there was a blocking of the internal saphenous vein. The case may be one of embolism, but because she has lost the power of expressing her ideas she was supposed to be insane. There is no other evidence of insanity. In right-sided hemiplegia there is always some aphasia, and when the lesion is pronounced it cuts off the speech centre from the parts below. Such a condition as this might serve to impress some people with the idea of insanity. The case is of interest to us only as one of mistaken diagnosis. She is not insane, but it serves to show us the necessity of making a careful examination.

I will now call your attention to another type of insanity: *Paretic Dementia—General Paralysis of the Insane*. This disease usually occurs in the prime of life, and is much more frequent among males than females. In females the disease runs a slower and more even course; the delusions are not, as a rule, so expansive, nor the remissions so abrupt as in the male. We have two varieties: the ascending type, beginning in the spinal cord, and the descending type, beginning in the cerebrum. The average duration of the disease is about three years, although it may terminate much sooner or extend over a period of many years. All cases of paretic dementia have many symptoms in common: the peculiar thickness of speech, the inequality of the pupils and their immobility to light, the clumsy walk, and their unsystematized delusions, usually of the expansive type, of wealth or grandeur.

Case 16. Female.—This woman, you see, has the depressive form of delusion. She imagines that she has been greatly wronged. It is very uncommon to find the delusions as depressive as they are in this case, even among women. You will notice here the peculiar defect in speech. Later along this defect becomes aggravated by the increasing amnesia of the patient, causing the frequent use of the wrong consonant. A characteristic feature of the later stages is the unnecessary movements of the lips and tongue, associated with those of other muscles, upon efforts at speaking: the nostrils dilate and contract alternately, the corrugation of the occipito-frontalis muscle increases, and after all these spasmodic

and exaggerated movements, the word is thrown out as though it had to force its way through some impediment. This case shows some inequality of the pupils, and has exaggerated patellar tendon reflexes, showing that the spinal cord, as well as the brain, is involved in the degeneracy.

Case 17. Male.—Here is another case of paretic dementia. This man says there is nothing the matter with him. He feels first-rate. He tells us he is worth \$30,000; he is happy, satisfied with himself and his surroundings. Note the similarity in speech in this case and the preceding one. We have here, also, inequality of the pupils—contracted, in this case; they are also immobile. The delusions of this man are of the character usual in this disease: the expansive, happy type. These people simply assert their wealth, or grandeur, or whatever it may be; they do not reason about it; their delusions are all unsystematized. Compare the appearance of this man to that of the woman. The mental deterioration is just as serious in one case as the other. The man, you see, has a satisfied, happy look, while the woman is perfectly miserable.

Case 18. Male.—Here is another typical case. He says he is not so well as he expects to be, but he imagines he can jump, box and spar. He also thinks he is a graduate of Yale, and valedictorian of the class. You see he is self-satisfied and happy. Notice here the same disturbance of speech, the same pupillary phenomena, and the same exalted character of the delusions.

Case 19. Male.—This man imagines he owns all the real estate in the world, all the horses, and every stick of wood. He has the same air of satisfaction and content, and all the symptoms enumerated in the two preceding cases.

Case 20. Male.—This man tells us he is wealthy; he imagines he can sing and dance. You see, he is happy and contented. He has the unequally dilated pupils, the clumsy walk, and the same defective speech.

Case 21. Male.—Here is another wealthy (?) paretic. He owns the State of California. He has the same characteristic symptoms shown you in these other cases. The tremor of the tongue is present, in a greater or less degree, in most of these cases.

Case 22. Male.—This is a recent case.

(To patient): "How is your health?"

Patient: "Perfect, doctor—I'm first-rate."

Prof. B.: "How long have you been here?"

Patient: "Three or four weeks."

Prof. B.: "Why did you come here?"

Patient: "I ran for Senator at the election. I had no money. The boys came around for some 'stuff.' I had none, and they attacked the house and broke the windows. Some one came to protect me, and took me to the Town Hall; next day my house was set afire and burned. That disturbed me, powerful. Some of my children came down to tell me about it, and were run over by a train."

Prof. B.: "How much of a majority were you elected by?"

Patient: "I don't know, exactly. It was pretty fair."

Prof. B. (to class). "This is all a delusion."

Patient: "Oh no, it is not."

Prof. B.: "Well, we may need your assistance in the Legislature."

Patient: "You shall have it, with pleasure."

During the early stage of this disease, depressive delusions may occur, as in this case. The defect in speech is noticeable in this case, and there is some inequality of the pupils.

The prognosis of this disease, while not absolutely hopeless, is bad. Treatment is of service only in the early stage. If the condition is recognized during the prodromal period, you may possibly be of some service to them. In the cerebral form, this stage presents as its most notable sign, a change of character. The heretofore careful business man becomes negligent, the kind husband and father, indifferent or irritable. The memory is early affected and, at first, relates to trifles. As this period progresses, more serious omissions and errors occur. He becomes irregular in his habits, forgets his appointments, and along with these symptoms the morals begin to totter. The patient forgets his moral obligations to himself and to his family. His walk becomes less steady and regular. The legs are thrown wider apart in order to widen the base of support. During this stage the patient may be more or less depressed. At the close of this period the depression, if it existed, disappears, and delusions of grandeur take its place, often coupled with extravagant expenditures. There is also an increase of all the physical signs. This excited condition may last a few hours, days or weeks, when a remission occurs and the patient apparently recovers. In the majority of cases, tremor of the hands, inequality of the pupils and a slight speech defect are more or less prominent during the remissions, which may last from three or four months, to years. With every exacerbation, the physical signs increase, and the mental deterioration becomes more manifest. When the disease is recognized, the patient should at once be put to rest, physically and mentally. Mild alteratives combined with tonics may be of some service. The blood supply to the brain should be regulated, by such remedies as bromides, ergot, etc. Narcotics of a non-depressing character should be used if necessary, and the diet should be carefully attended to. Nutritious and easily digested food should be freely administered. Massage and the constant galvanic current are also of great value.

SMALL POX.—Authentic reports indicate quite a widespread existence of this disease in Texas—that is, that it has appeared at a considerable number of points throughout the State. Two cases are also reported to have been found in New York City.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

INHALATIONS OF PEROXIDE OF HYDROGEN.—GABRILOWICZ (*Nouveaux Remèdes*, 1891), has tried the inhalation of peroxide of hydrogen in a large number of cases of affections of the larynx and trachea. He begins ordinarily with a one per cent. solution which is gradually increased in strength; in tuberculosis he recommends a beginning strength of five per cent. He has employed the remedy in a large number of conditions affecting the respiratory organs, acute and chronic laryngitis, trachitis and bronchitis.

THE TREATMENT OF ADDISON'S DISEASE, WITH KOCH'S REMEDY.—DR. HERMANN LENTHARTZ (*Sonderheft der Therap. Monatshefte*, January, 1891), contributes an exceedingly interesting case of this disease that was apparently cured.

The writer thinks that the most frequent change in the adrenals in Addison's disease consists of a caseous tubercular degeneration. In the 152 cases collected by Greenhow changes were confined to the supra-renals in 101, the bulk of these cases presented the typical picture of tubercular caseous degeneration. It is apparent that in any case of morbus Addisonii a localized tubercular process may be present in the adrenals, and therefore in the writer's judgment the use of Koch's lymph in these cases is at least justifiable.

The patient, 23 years of age, came from a healthy family of eight children. On December 24, was taken ill, with marked debility, loss of appetite, headache and fever (?), was confined to the bed until the 16th of January. One of the most prominent symptoms was frequent vomiting; diarrhoea was occasionally present, alternating with constipation. From the middle of January until the beginning of May the patient was comparatively well though he complained of weakness and had occasional vomiting. A Carlsbad cure was ordered, but only increased the weakness of the patient and the frequent vomiting; at this time he was in bed more or less, had daily vomiting with alarming and frequent attacks of sudden weakness. The writer saw the patient first on the 22d of October last, when he was emaciated and greatly reduced in strength. The most noticeable appearance at this time was the intense bronzing of the skin especially marked over the shoulders, along the dorsal spines and on the trochanters; in marked contrast to the dirty yellow color of the face was the bright glistening white of the sclera, of the eye-ball. Punctiform and linear grey and bluish-black pigmentation was found on the lips, inner side of the cheeks and on the tongue. The lungs and heart were normal, the pulse small, and often

uneven; with some tenderness in the epigastric region constituted the clinical picture; no other abnormalities, such as glandular enlargements, etc., could be made out. At first a strict dietetic cure was employed, under which the patient improved in weight and the vomiting ceased. On November 16, the first injection was given, which was followed by a typical reaction. On November 20, a second injection was given, followed by reaction eighteen hours later. On November 24, an injection of two milligrams was used that was followed by marked reaction eight hours later. The fifth injection, of three milligrams produced the most marked reaction, the temperature reaching 40°C ., and such a degree of prostration as to cause much anxiety, but as the author remarks "it was the only possible method of saving the patient" so he continued the treatment. On December 5, the sixth injection of 3.5 milligrams was given, the temperature rose to 39.1°C ., but the appetite and sleep were not disturbed, while vomiting did not occur as it had previously with some of the larger doses. The seventh injection was given on December 9, four milligrams were used, but it did not cause disturbance of the general condition, and only the slightest rise in temperature from 38° to 38.1°C . December 11, 15 and 20 injections were employed consisting of 5, 8 and 11.5 milligrams respectively. These did not cause the slightest local or general reaction. From day to day the general condition improved, within the last fourteen days an increase in weight of five pounds. The appetite is good, no vomiting, voice strong, in short he presents the appearance of one convalescent from an acute infectious disease. The pigmentation remained unchanged.

The author closes with a brief *résumé* of his conclusions, which are that this method is of great diagnostic value, especially in obscure conditions such as these. He is of course, doubtful of the permanency of the cure, and insists that from time to time the lymph should be injected in large doses. He especially calls attention to the fact that the pulse of this patient did not rise with the temperature as it usually does. This he attributes to a direct inhibitory action upon the vagus, through the local action in the adrenals.

KOCH'S TREATMENT.—DR. ALESSANDRO BORGHIERINI gives an account (*Lo Sperimentale*, January 15, 1891), of the results of Koch's treatment in fourteen cases of tuberculosis of the internal organs and two cases of lupus in the Medical Clinic at Padua. Of the former, five were affected with pulmonary phthisis, seven with both pulmonary and laryngeal tubercle, while two suffered from tuberculous disease of the intestines and bones as well as of the lungs and larynx. In all the cases, careful observations

were made of the patient's general condition before, during and after the treatment. Every day the sputum, the urine, and the blood were carefully examined. The injections were, as a rule, made every second day, the initial dose being from 0.001 to 0.002g., and the amount being gradually increased by 1 or 2 milligrams at a time. The largest dose given was 0.009g. The reaction had the same general characters which are now familiar, but in two cases in which pyrexia had not previously been present, the fever, which was of intermittent type, still persisted at the date of the report (eight days after the last injection). In two cases the urine showed traces of albumen, which soon disappeared. In the larynx the local process became more acute after the first injections, this effect gradually diminishing till it ceased altogether; the local condition was very considerably modified, while the subjective symptoms were greatly relieved, and in some cases entirely removed. In the lung, the reaction consisted in a series of symptoms at the seat of the primary focus of disease, recalling pneumonic hepatization. The resolution of the hepatized tissue was sometimes speedy, sometimes slow. When it took place rapidly, resonance, which was before diminished, became exaggerated, but there always remained certain local signs, such as râles, harsh breathing, prolonged expiration. In only one case did the physical signs entirely disappear. With the modification in the physical signs, the symptoms were correspondingly mitigated; the cough became easier, the expectoration scantier, and the appetite keener. In some cases it was noticed that the local reaction in the lung was accompanied by vaso motor disturbance in the cheek of the same side. In nearly all cases diminution of the hæmoglobin in the blood was noted in the early part of the treatment, but this loss was speedily made good, and in three cases there was after a time increase of hæmoglobin. The injections caused slight hæmoptysis in patients who had previously had attacks of bleeding from the lung. As a rule, the bacilli did not diminish in number, but changes in form were sometimes observed. Borghierini sums up his results as follows: In four cases in which the disease was very mild there was "some slight favorable change in the physical conditions of the lung and in the general condition." Other factors, such as careful hygiene, good nourishment, etc., may, however, have contributed to this. In the other cases the morbid process was not modified in any way by the treatment. With regard to the lupus cases, in one (a girl, aged 8), after treatment for about a month, the local condition was somewhat improved, but the nodules could still be seen as numerous as they were before the injections were begun, only a little paler. In the other (a woman in whom the disease was of fifteen years'

standing), the injections did some good, but the reactions were so severe that the treatment could not be carried out to the extent necessary to produce any marked effect. In Borgherini's hands, so far, the injections have not been attended with any untoward result.—*British Med. Journal*.

KOCH'S REMEDY AND ITS RESULTS.—This theme still occupies the attention of several foreign societies, notably the Berliner Medicinische Gesellschaft (*International Klinische Rundschau*, February 8, 1891). Prof. Virchow (meeting of January 28, 1891) claimed that there was but little to add to his report of the last session describing the action of the remedy upon the internal organs. He presented additional specimens, from two patients who had died in the course of the treatment, that showed fresh tubercle in different organs, in so far confirming his earlier expressed opinions.

Dr. Lassar presented a young girl that, following a tubercular inflammation of the hip, developed a large ulcer on the thigh. After a few injections with a small dose, the sore cleared up, and healed, its place being marked by a smooth cicatrix.

Flatau reported a case of laryngeal tuberculosis that at first improved, but later developed additional tubercles upon the vocal cords.

Fürbringer, out of one hundred patients, reports forty-six who have been more than two months under treatment, of these three no longer present the characteristic symptoms, fifteen have been distinctly improved, nine unimproved, and five have become worse, and seven have died. Fürbringer is of the opinion that in florid phthisis, or those presenting marked hectic, or great weakness, should not be treated.

Prof. Pribram (*Verein deutscher Aerzte in Prag*.) reports that sixty cases have been under treatment during the past two months. Of these three, he thinks, may be considered as cured. He also notes several unfavorable results: in one case dangerous hæmoptysis, and in another a rapid extension of the tubercular process that was fatal in eighteen days.

Medicine.

GUAIACUM AND BILIOUSNESS.—DR. W. MURRELL, of London, revives the interest of old practitioners in guaiac, and invites the younger ones to make trial of the almost discarded favorite. In the *Press and Circular* he points out how, in the thirst after novelties in therapeutics, there is a danger that some of our good old-fashioned drugs may get the go-by. This is partly the fault of the text books on *materia medica*, for the reason that they mistakenly described the properties of the old drugs in some instances. For example, many books speak of guaiac as diaphoretic and diuretic, while Schmiedelberg, of Strasbourg,

groups it among the drugs and preparations used for all sorts of purposes, but now mostly "antiquated or obsolete." Phillips, however, in his well known work on the "Vegetable Kingdom," recognizes that the drug has a decided purgative action. Dr. Murrell had his attention drawn to the subject a few years ago by casually prescribing for a man suffering from rheumatism some lozenges of guaiac made up with the ordinary paste of black currants. The patient continued to take the lozenges long after the pains had ceased, and in explanation said that they did him good by acting on the liver and bowels. One or two lozenges taken in the morning before breakfast acted as a prompt and convenient laxative. Following up this clue, other patients suffering from constipation and that train of symptoms that are summed up under "biliousness," were treated by the same drug, and a result equally satisfactory followed in many cases. For hospital purposes, the author had a confection prepared containing 10 grs. of guaiac resin to a drachm of honey, and this became a popular purgative in the hospital, besides being used with other remedies in rheumatism, sciatica, tonsillitis and dysmenorrhœa. The dose was increased in some cases to 1 and even 2 drachms thrice daily. Taken in this manner, the purgative and "antibilious" effects are very pronounced; in one case the patient had fifty evacuations in the week. In one case an eruption was produced, covering the arms and legs, not unlike the rash of copaiba. That this kind of resultant rash is most uncommon may be gathered from the fact that Dr. Tilbury Fox did not remember to have seen more than one case like it previously. Intense itching accompanied it, and it ceased soon after the drug was discontinued. The guaiac sometimes gave rise to a sensation of burning in the throat; to obviate this Dr. Murrell frequently made use of a half-ounce of malt extract as a vehicle for each 10 gr. dose of the drug. This worked well, and may be regarded as a kind of *renaissance* of the old-time Chelsea Pensioner, which was compounded of guaiacum, rhubarb, ginger, sulphur, and some other less active ingredients, but they both have an attractiveness to those veteran cases of the hospital and dispensary that complain of torpid liver and bilious attacks. The author believes that the drug will prove itself a very satisfactory laxative or purgative, according to the dose employed. It is possible, also, that if the drug were triturated with cream of tartar, with sugar of milk, or other inert substance, its activity may be enhanced and the size of the dose reduced.

DISINFECTION OF TUBERCULOUS SPUTUM.—In the *Centralblatt für Bakteriologie*, Nos. 1 and 2, 1891, DR. MARTIN KIRCHNER points out that the general consensus of opinion has come to regard the sputum of tuberculous patients as the ordi-

nary means by which tuberculous disease spreads from one individual to another. In many of the large military establishments in Germany it has been shown that tuberculous disease has been very widespread amongst the nurses and attendants upon the sick, and stringent rules are already in force in many such places to prevent the indiscriminate disposal of sputum. Tubercle bacilli are more resistant than some other microorganisms to the action of some antiseptic fluids, but are very easily destroyed by others. Four per cent. carbolic acid, with the addition of 2 per cent. of hydrochloric acid; 2 per cent. and 5 per cent. of sulpho carbolic acid, or 10 per cent. of creolin, will suffice to render tubercle bacilli innocuous in a very short time. Caustic soda and potash, on the other hand, and 5 per cent. of permanganate of potash, have no effect, nor is a solution of 1 in 1,000 of corrosive sublimate sufficient, owing to the highly albuminous character of the sputum in which the bacilli are contained. It has now been proved that tuberculous sputum may retain its infective properties for ten months even after decomposition or drying up. It must, therefore, be equally active as it lies in the various receptacles which have been devised for its reception. The methods by which these vessels are cleaned becomes a matter of considerable importance. Boiling water is used in some places, but it is open to the chance of the water becoming cool before it can be used, and does not do away with the necessity for the wiping of the adherent sputum from the sides of the vessel by the hands of the attendant. A temperature of 70° C. has been shown to be insufficient to render tuberculous sputum innocuous, and the author of the paper believes that absolute disinfection is to be obtained only by means of steam. This plan was advocated by Grancher and De Gennes in 1888, but the apparatus devised for the purpose was cumbersome and costly. Now that there is a general disposition to treat tuberculous cases on much the same lines as leprosy cases, by collecting them together, it should be an absolute law that all the sputum proceeding from such cases should be rendered harmless before it is disposed of in the common drains. With this object, Dr. Kirchner has caused a form of disinfecting kettle to be constructed, consisting of a round metal box about 10 inches high and 16 inches in diameter, its floor forming a shallow tank to hold the water to be vaporized, the whole being covered with a lid perforated at one point for the passage of a thermometer. In this box are placed two or more trays, perforated to permit of the free circulation of steam, and so arranged as to carry five spitting-cups of the special pattern which he uses. These cups are placed for half an hour within this apparatus, heat being maintained so that the temperature of the steam never falls below 100° C. A strong protest is made against the use of the

ordinary spittoon, whether filled with sawdust or some antiseptic fluid. The spittoon is of necessity too far removed from the patient's mouth to ensure that all the expectorated matters are collected by it. The state of the floor round and about any spittoon in a public place is appealed to as sufficient evidence of the truth of this statement. Small cups made of glass, with wide lips and easily cleaned, should be used in preference to the spittoon, but must be placed within reach of the patient's hand, and be clearly labelled. These cups must be placed in the disinfecting box for half an hour before they are emptied, and their contents may then with safety be treated by simple washing.—*British Medical Journal*.

Surgery.

STOMACH RESECTION.—February 6 Dr. PORGES presented to the Aertztliches Veremssleben, in Wien, a middle aged man in whom Prof. Maydl, the previous August, had resected at least half of the stomach. The carcinomatous mass was adherent to the pancreas, necessitating a removal of a portion of that gland, as well as a part of the greater and lesser omentum. The patient apparently fully recovered and up to the present has shown no signs of a return of the disease. In discussing the case Kahler contended that the entire removal of the stomach was practicable, as the small intestine was amply sufficient to provide nourishment.

Bacteriology.

ACTION OF KOCH'S LYMPH ON HEALTHY ANIMALS.—M. JACCOUD has recently communicated to the Académie de Médecine, Séance du 10 Février, 1891 (*Le Bulletin Médical*) the history of a guinea pig that was inoculated with Koch's lymph, and subsequently with the tubercle bacillus. The pig, exceptionally robust and strong, weighing 580 grams, received two series of daily injections separated by an interval of eight days, the one extending from the 8th to the 18th of December, and the second from December 27 to the 4th of January; in all 50 centigrams of the liquid were used, or 25 in each series. On the 5th of January the animal was inoculated upon the shoulder with tubercle taken from a tuberculous guinea pig. It succumbed one month later with all the typical signs of tuberculosis,—grey confluent granulations in both lungs, a hæmorrhagic hepatization in the upper part of the right lung, and caseous tubercle in masses in the spleen and liver. This species of guinea pig (angora) usually survives longer than one month, therefore the particular animal presented the minimum of resistance and the maximum of pathological change common to its species, proving that Koch's remedy does not act as a preventive. Another and smaller guinea pig was inoculated at the same time with a portion of the same tuberculous matter; at the time of the report this animal was still alive.

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THE PURPOSE OF "THE JOURNAL."

Our views with reference to the preparation of papers for presentation and discussion in the several Sections at the annual meetings of the Association, as presented in the last number of THE JOURNAL, we trust will not be considered as strictures upon legitimate work. If the humblest member of our profession has a single unknown fact, an observation of value not hitherto recorded, a special method of operation, or a practical suggestion with reference to the action of a remedy or the method of administration of which the profession should be advised, he certainly will not be deterred by what was written from the fulfillment of an obvious duty. But if, on the other hand, one shall be simply ambitious to place himself on record and propose to bring as his contribution the cerebrations of other brains better recorded elsewhere, if from our suggestions he shall deem it wiser to accord the field to those who write of what they themselves have wrought, then the purpose of our writing will not have been in vain. If more and more, in the future, the "Original" department of THE JOURNAL can be made to represent original thought and original researches of our foremost medical men—whose articles it were a credit to publish, and a pleasure to peruse, one of the grandest purposes of THE JOURNAL will be attained.

If, in this connection, the concurrent labors of an able corps of editorial writers can be assured; if the current literature of the day can have ample and judicious representative expression; if the

best of foreign literature can be secured, and the proceedings of medical societies and organizations can be tersely and impartially abstracted, and THE JOURNAL itself remain absolutely divorced from political and partizan purposes, then, if we rightly estimate, will it be prepared to render strong and legitimate assistance in the *uplifting* of journalism in this country. This is our hope and our anticipation as the future achievement of THE JOURNAL.

We wish to be in utmost harmony with all legitimate journalistic work and workers in the fulfillment of possibilities as set forth in another article in this issue, in which reference is made to the coming meeting of the Medical Editors' Association.

THE MEDICAL EDITORS' ASSOCIATION.

This Society, although only a few years old, is practically the most influential and important in the country. Everywhere it is apparent that medical journals are taking the place of volumes and text-books. Medical readers want the latest facts concerning every movement of science, in the laboratory, bedside and hospital practice.

The value of such facts are recognized, not only by the isolated country physician, but medical teachers in crowded cities, and busy physicians, who have little time for reading volumes. While medical journalism is yet in its infancy compared with what it will be in the coming century, its educational power and value is felt in every circle of science. It is fatal to egotism and dogmatic conceptions of theories in science, and points out the fact that no one, however eminent, can fully master all the facts, or apply them in the practice of healing. The formative power of the press is really greater than medical colleges, for it not only shapes the action of educational forces, but it continues through all the after professional life of the student. It is literally a teacher that is always present. The majority of the editors of the medical press realize this power, and use it to promote the higher interests of science.

A small and ever decreasing minority still cling to the idea that medical journals are only valuable in proportion as they serve some personal, selfish ends, or become the organ of a faction or a party. They form their conceptions from the secular press and politics, and it is needless to

say that in the long run they foster conditions which will result in their own destruction. All medical journals have a local personality, and quite naturally give prominence to some college, or teachers, or even a publishing house. But this localism is generally subordinate, and rarely ever assumes the superiority over all others, of its college, teachers or publishing house.

The great art of good journalism is to have a distinct personality, that is broad, clear and generous, above all low levels of impulse and feeling; also to discriminate the value of facts and theories above the authors, or sources; and be able to determine their place and meaning in science. This is an art that must be natural, as well as cultivated, and requires as distinct talents as in surgery, or in other fields of medicine. Among medical journals in this country there are notable examples of great ability in this direction.

The number of journals is steadily increasing, and the process of the "survival of the fittest" is going on with unerring certainty. The standard and editorial tone is rising constantly; a broader generosity and feeling prevails, and scientific kinship is springing up. As the medical press rises in scientific conceptions of medicine, the old rivalry dies away, and the great ocean of undiscovered truth looms up, where each can sail alone, without crossing his neighbor's track, and beyond all contest and rivalry.

The coming meeting of medical editors should include every medical editor in the country. A personal exchange of opinions, and personal acquaintance, are large factors in developing the best interests of each. The day for fulsome admiration, bitter personalities, and hilarious eating and drinking has gone by. The time has come for united work, and every medical editor should join his influence and power to make the Association a true exponent of American medicine. With a united medical press, many of the existing abuses in medical education and charities would be corrected. The low estimate of the profession by public opinion would be a thing of the past. While the Medical College Association and Societies can do much to advance the standard of medicine, a united medical press can do more; this is apparent in the increased quotations of opinions of journals on points of interest.

The profession will watch with increasing interest the coming meeting of the medical editors,

not that they will cause any great revolutions of science, but the more united they become in both personality and scientific interest, the better their work. While science is truly cosmopolitan, every journal and medical man ought to cultivate a National pride and ambition to distinguish facts and principles of medicine as clearly and quickly as foreigners.

Journalism ought to lead and direct the observer to fields of discovery that are as accessible from this country as elsewhere. Concentrate the medical press in work and interest, and the road is open for brilliant discovery.

TREATMENT OF PHTHISIS.

The treatment of disease of the respiratory tract by the inhalation of gases or medicated air attracted attention in the childhood of medicine. The bringing of the curative agent in direct contact with the diseased surface was apparently so rational a procedure that few could doubt its utility, and yet of all the fantastic methods that have been devised, and the various inhalants that have been introduced with such *éclat*, none of them attained permanent popularity. This inhalation treatment of phthisis has ever proved an *ignis fatuus*, leading men into all sorts of pathological sloughs and etiological pitfalls. The discovery of the tubercle bacillus has but added an impetus to the mad race for something that would kill the parasite and not harm the host. Can we hope to kill the tubercle bacillus in the lung by inhalation? Certainly not, because the remedy does not come in contact with the bacillus. The most powerful disinfectant known, unless brought in direct contact with the germ, will not destroy it—if the most infinitesimal part of an inch intervene its action will be prevented. Now if the tubercle bacillus were swimming around in the bronchial secretion on the surface of the epithelial cells we could accomplish something with our disinfecting gas, but unfortunately it is situated deeply in the tissue of the lung, in the giant cell, and often encapsulated in connective tissue. It is apparent that any direct effect that the inhaled gas may have upon the bacilli is due to its absorption, and action through the blood. We do not wish to be misunderstood; it is not claimed that inhalations may not be *useful* in phthisis, the catarrhal conditions and mixed infections that accompany the

disease may be greatly benefited, but they can not kill the bacilli directly.

It would seem that many of our professional friends had lost sight of the etiological factor in phthisis. Are the broad chested, healthy and robust especially prone to this disease, or is it one that is liable to attack the puny, ill-nourished and narrow chested? And are not these conditions favored by over-crowding, ill ventilated school-rooms, long hours of study and cramped positions, with the attendant imperfect expansion and passive congestions of the lungs? Too much analogy has been assumed in the various microbic disorders. Take, for example, small pox, how different are its etiological relations; attacking indifferently the strong and the weak, self-limited in its nature and one attack conferring immunity. If these things were true of phthisis how much more might be hoped for from medicinal treatment? Is it not time that scarlet fever should be brought under control, and its ravages limited, as have been those of small-pox?

We submit our view, and not without trepidation, that the tubercle bacillus will hold its own against all the sulphuretted hydrogen, chloride of gold, pneumatic cabinets, hot air or lymph that can be brought against it. Many of these remedies may prove to be most useful in the treatment of phthisis, but the danger now is that their too enthusiastic advocates will forget the predisposing and exciting causes of this disease and with the inevitable resultant failure will come a therapeutic nihilism, that will work to the discredit of scientific medicine. In conclusion we cannot refrain from calling attention to the words of KOCH, to show how clearly he recognized these limitations when he said: "How far the present methods of cure, mountain climate, open air treatment, etc., may be combined with the new measure is not yet determined, but I believe that these curative factors may be usefully employed in many cases, especially in neglected and severe forms as well as in the convalescent stage."

THE ANTI-TUBERCULOSIS INOCULATION TREATMENT OF RICHEL.

During the past two years, a series of communications has been made to the Society of Biology at Paris, by RICHEL and HÉRICOURT, giving

their results obtained by intravenous injections and inoculations for the relief of tuberculosis. They have not been limited to any one inoculation-material, but since April, 1890, their attention has been especially directed to the blood of animals refractory to tuberculosis, as the dog, although they have also used non-bacillar products from old tubercular cultures. They have lately reported that dog's blood has been demonstrated to have a retarding effect in the case of rabbits where tuberculosis has been artificially produced, without, however, arresting the disease altogether. They next undertook to intensify, if possible, these partially protective properties of canine blood, by inoculating a dog with unmistakably active tuberculous matter, in large doses, and one month later, the animal having meanwhile lost flesh and given manifest signs of ill-condition, injected into the peritoneal cavity of three rabbits about 2.4 fluid ounces of this dog's blood. One week later, these rabbits, were with three other test rabbits injected with strong tubercular virus, with this result that in twenty-five days two of the latter were dead, while the others survived. Their next step was to extend the application of their method to tuberculous human beings, using the blood-serum only and injecting it subcutaneously in the interscapular region. This was done early in last December upon four males. RICHEL reported, January 24, to the Society of Biology, that the treatment has appeared to counteract the progress of the disease to some extent, at least, in all four cases; two of whom are affected with pulmonary phthisis, while the other two have both the larynx and lungs involved. Eighteen days after the treatment was begun the physical signs were markedly reduced, night-sweats had been suppressed, and the appetite of the patients had improved, as well as their weight and strength, one of them had gained in weight fully nine pounds in that period; that of the others in a less degree. The laryngeal patients had been relieved of that distressing agony formerly experienced on deglutition, the epiglottis which had been very swollen and motionless had become reduced in volume and regained its mobility. In all the cases, the interscapular region became the seat of itching, some time after the injections, and attained its maximum twenty-four hours later. The size of the dose of injected

serum was stated at about fifteen minims to a fluid drachm, which was administered in from three to six days. No constitutional reaction occurred, and the local disturbance was very slight; pain was complained of after two treatments only.

THE SPHERE OF WOMEN MEDICAL PRACTITIONERS IN CHINA.

The Edinburg Medical Missionary Society publishes, in its quarterly paper for February, 1891, some facts regarding the sphere for female medical attendance among the women of China. Not only is medical skill lacking and of most indifferent quality among the Chinese, but even such as it is it can hardly be obtained by the women, because the native practitioners are males and it is not considered proper for them to treat female patients. Under some conditions an old woman of experience in obstetrical and children's complications may attain to some consequence in a limited locality. But there is a vast female population that has practically no medical attendance whatever; and if the children are included with the women, as they must be to the extent of many millions, the needs of China for female medical attendance will be found to be in the thousands. The number of practitioners who can satisfy these demands can never be supplied from Western lands. The constant aim of all well-wishers of China must be to raise up a supply from among the natives themselves; and fortunately it has already been proved that there is no want of capacity in the Chinese female mind in this direction. Certain difficulties have been, and will continue to be, met in Oriental life and habits of thought, as to women taking a prominent or professional position, especially during young and middle life, but these can be overcome by wise fathers and husbands and by senior female counsellors who have broken away from their old superstitions. In many respects the Chinese are intensely practical, and are not slow to see if a new proposition will pay. This is all that is needed to insure the progress of the movement. The economic wisdom of the people will soon teach them that it is wasteful not to take better care of their women and children, if for no other reason, at least for that which prompts to the care of cattle. The family is much stronger among them than is generally supposed, and

China is the land of the family, in an eminent degree. The pride of country is, also, intense, and leads them to no little exultation when one of their countrywomen has shown herself to be a skilled physician. Western healing has a strong popular hold already. Its results often appear to be almost miraculous; so that by the time a good medical training can be supplied to native women and acquired by them, the demand for them will be sure to be far in excess of the supply.

EDITORIAL NOTES.

SPECIAL NOTICE TO THE OFFICERS OF SECTIONS.—It is not only desirable, but necessary, that those who have in hand the work of securing papers for presentation in the several Sections at the coming meeting of the Association, shall complete their work at an early date. The programmes for the Sections should be in type as early as April 10, and revisions secured at once. The entire programme, thus completed, will be *copyrighted* and published in a single issue of *THE JOURNAL*, and also in pamphlet form for general distribution. The appropriation of this programme, in whole or in part, by scheming publishers or advertisers, as in times past, we trust will not be attempted.

Officers of the Sections! An important responsibility is upon *you*. The value of the papers which you solicit must largely determine the value of the Original Department of *THE JOURNAL* for the coming year. Let your selections be well made. Let your work be completed promptly.

SPECIAL NOTICE.—In consequence of the conflict of dates of the American Medical Association and the Indiana State Medical Society, the date of the meeting of the Indiana State Medical Society has been fixed for June 10, 1891, the *second* Wednesday.

CHANGE OF TIME OF HOLDING THE MEETING OF THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS.—On account of the meeting of the American Medical Association at Washington, D. C., on May the 5th, and continuing to the 8th, it has been thought best by the officers of the National Association of Railway Surgeons to change the time of meeting from May 7 to April 30. The meeting will be held at Buffalo, New York, beginning at 10 o'clock A.M., and continuing to May 3. This change will give the sur-

geons who have a long distance to travel an opportunity of attending both meetings on one trip. Remember the change from May 7 to April 30. Any further information desired can be had by addressing Dr. E. R. Lewis, Kansas City, Mo., or Dr. A. G. Gumaer, Buffalo, New York. The meeting promises to be well attended by surgeons from all parts of the country.

NOTICE TO MILITARY SURGEONS OF THE NATIONAL GUARD.—Dr. N. Senn, of Milwaukee, Surgeon General of Wisconsin, is desirous of obtaining the name and address of every surgeon of the National Guard in the United States for the purpose of taking the necessary preliminary steps towards the formation of a permanent National Association.

THE HASSEKI HOSPITAL FOR WOMEN AT CONSTANTINOPLE.—Hospitals are an index of the progress of civilization, their establishment and support always means progress in science and art. We note an excellent description by Pechedimaldji in the *Revue Médico-Pharmaceutique* on the Hasseki Hospital for Women, situated in one of the most populous quarters of Constantinople. The sun of humanity is rising upon the women of the East.

KOCH'S REMEDY AND ITS RESULTS.—Under the head of "Progress" in this issue appears an abstract of the proceedings of the Berlin Medical Society, in which Prof. Fürbringer reports forty-six cases of pulmonary tuberculosis that had been under treatment for *more than two months*. The results are certainly not what we had hoped for—three cures and seven deaths. The death-rate in this treatment is proving exceptionally high, and the statistics so far as they are at hand show more fatalities than recoveries.

IMPORTANT NOTICE.—An announcement was recently made that an Army Medical Board would be in session in New York City during April next for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies. At the time of that announcement there were only five vacancies to be filled. Recent Congressional legislation has, however, permitted the retirement of certain officers, so that there are now fourteen vacancies in the grade of assistant surgeon, with the probability that the number will be increased to seven-

teen by the time the examining board begins its labors. As already stated, persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before April 1, 1891, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between 21 and 28 years of age, and a graduate from a Regular Medical College, as evidence of which his diploma must be submitted to the Board. Further information regarding the examinations may be obtained by addressing C. Sutherland, Surgeon-General U. S. Army, Washington, D. C.

THE MEDICAL SOCIETY OF THE MISSOURI VALLEY will meet at Omaha, Neb., March 19 and 20. Papers will be read by Drs. A. F. Jonas, Omaha; J. M. Emmert, Atlantic; Flavel B. Tiffany, Kansas City; Donald Macrae, Council Bluffs; S. Stewart, Council Bluffs; J. E. Summers, Jr., Omaha; J. F. White, Council Bluffs; S. G. Gant, Kansas City; H. Gifford, Omaha; Rebecca Hanna, Red Oak; and J. P. Lord, Omaha.

RECENT STATUS OF KOCH'S METHOD.—The French and German medical press have devoted a very considerable part of their space for the past two months to accounts of trials and results obtained by the use of the lymph. We have from time to time presented our readers with abstracts of the more important and typical contributions. Their number has now become so large that to abstract even a part of the mass would require vastly more space than the editor has at his disposal. At the same time owing to the wide range of cases in which the remedy has been employed, the great variation in results and the want of uniformity in method of reporting would make any statistical compilation at this time not only useless, but positively misleading. French writers have been skeptical from the start, but some of them report favorable results in isolated cases. This is shown in the abstract, given in "progress" of this week, of thirty-

eight cases of lupus treated in the French hospitals. The German medical press has become more conservative in their claims, and they report many unfavorable effects of the remedy. A careful examination of the communications to date would seem to show that the method has a substantial range of usefulness, though it comes far short of the too sanguine earlier expectations.

MEDICAL ITEMS.

THE MICHIGAN STATE BOARD OF HEALTH.—The recently inaugurated Governor of Michigan is understood to advise the abolition of the State Board of Health, and it is feared by many that the Legislature will act accordingly. It is to be regretted that such an important element in the general welfare of a commonwealth is liable to be sacrificed. The Michigan State Board of Health has for years performed an excellent service to the people of that State, and certainly deserves better recognition than threats of extinction. It is to be hoped—for it assuredly is to be expected—that the intelligence of a State Legislature will not be so myopic and unmanifested as to permit the value of State Medicine to remain unheeded and uncared for.

HOW TO DISPOSE OF A HOPELESS INVALID.—A writer in the lay press has lately advanced a somewhat singular method of relieving the incurable. The plan has certainly the merit of permanency if not that of practicability, or any other winning virtue. Endeavoring to argue from a humane point of view, not only as to the patient himself, but as well those surrounding and intimately connected with the pains and sorrows of the invalid, the writer creates his plea of *kill-ing those so afflicted*. Really, this plan is not new, it has been advocated before, and actually—in earlier ages—put into practice. It is merely noticed here as an example of the ingenuity of the human brain in its effort to meet all conditions of environment, and the extreme views to which those dwelling upon euthanasia may arrive.

HYGIENE IN PHILADELPHIA.—Mr. Henry C. Lea, of Philadelphia, has given a sum of \$50,000 to the University of Pennsylvania for the erection of a hygienic laboratory. The plans have been revised by Dr. John S. Billings, who has embodied in them the results of his observations during a scientific tour in Europe. The institution will, it is stated, be the finest of the kind in

the world—till some other American millionaire builds a grander, or at least a bigger, Temple of Hygiene somewhere else. It is to be provided with lecture rooms, museums, bacteriological and photographic rooms, a crematory, a separate building for the rabbits, guinea pigs, and other animals used for experiments.—*British Medical Journal*.

DRS. SHURLY AND GIBBES.—These gentlemen appeared before the Medical Society of the State of New York, at its fifty-fifth annual meeting held in Albany, on February 3, 4, and 5, and gave a résumé of consumption, as it is considered by them, both pathologically and therapeutically.

THE HARVARD MEDICAL SOCIETY OF NEW YORK CITY, of which mention was made in the last issue, has perfected its organization by the election of the following officers: President, Dr. Rufus P. Lincoln; Vice-President, Dr. Paul F. Mundé; Secretary, Dr. Dillon Brown; and with an Executive Committee consisting of the President, Secretary, Dr. Frederick R. Sturgis, William J. Morton and Henry C. Coe. Meetings are to be held on the first Saturday of each month, except June, July, August and September.

A NEW SCIENTIFIC SOCIETY has just been started at Philadelphia, the main object of which is to examine critically the brains of distinguished decedents. It is said the operations of the society will be limited to persons holding diplomas from the University of Pennsylvania. We trust this is not a masked effort to "boom" a worthy institution of learning.

DECREASE OF LUNACY.—The report of the Commission in Lunacy of the State of New York shows, through the means of improved methods of registration and returns which have been adopted, that there is a material decline in the proportion of lunatics to population. Not alone are the improved records responsible for the more gratifying figures; but the advanced ways of treatment have had no inconsiderable part in the observed result. The term "chronic" with reference to the insane is having a more modified application. Better housing and attention, together with broader views generally, are working factors.

DR. W. W. DALE, a leading physician of Southern Pennsylvania, died at Carlisle, February 26, of pneumonia, aged 74 years.

TOPICS OF THE WEEK.

THE DEBATE ON KOCH'S REMEDY AT THE BERLIN MEDICAL SOCIETY.

The subject of Koch's remedy still continues to be discussed at the Berlin Medical Society every week, the proceedings on February 7 being as follows:

Professor Virchow exhibited the lungs from a case treated at the Augusta Hospital with twelve injections from December 4 to January 12. In each lung, especially the left, were circumscribed areas of dense pigmented carnification, intersected by whitish bands of "dissecting pneumonia" or spaces filled with pus and caseous material. But there was no true caseous hepatization. Another specimen, from a patient who had received thirty injections, illustrated the passage into gangrene of acute "smooth" hepatization. There were large apical cavities, and recent as well as old pleurisy, whilst the lower lobes showed areas of recent catarrhal pneumonia already breaking down. There were numerous healing ulcers in the colon. A third case was one of phthisis complicated with syphilis and amyloid disease; only two injections had been given. The phthisis was acute, and there was extensive cicatrization of laryngeal ulceration. Lastly, he exhibited specimens from a case of hip disease in a child aged three years and three quarters. The head of the femur had been recently excised, and prior to that the child had had five injections. Death occurred from acute miliary tuberculosis, tubercles being well seen in the bone marrow. They also occurred in the lung, and the rare (in child) complication of arytenoid perichondritis was present. Professor Virchow deprecated very strongly the statement that in many cases (especially the fatal ones) the injections had been made on experimental grounds and with no therapeutic aim.

Dr. P. Guttman showed a case of inoculated tubercle on the ring finger, in which the diagnostic reaction of Koch's fluid had been confirmed by microscopical examination of excised portions. The "warts" were attributed to inoculation of an abraded surface from a corpse which the man (a hospital porter) was engaged in carrying. Under the treatment they much diminished.

Dr. Grabower had no doubt as to the supervention of fresh miliary nodules in laryngeal cases under treatment, but he did not think this serious; it rather showed that the treatment should be continued. In two cases, which he exhibited, such nodules appeared without any pre-existing disease of the larynx. He gave the details of these cases, both early pulmonary phthisis with bacillary expectoration. In the one laryngeal symptoms arose after the twenty-fourth injection, and examination showed swelling of the false cords and a profuse eruption of grey miliary tubercle. These nodules soon became confluent, but entirely disappeared during the continuance of the injections. The other case was very similar, except that the nodules had not been yet wholly removed. He had often noticed this rapid subsidence of laryngeal tubercle after a few injections, and without denying the possibility of infection by contiguity, he regarded their appearance as a direct indication for persevering with the treatment.

Dr. Jolly, who resumed the debate on Professor B. Fraenkel's paper, directed attention specially to the mental disturbance excited by the fever caused by the injections in some cases, analogous to other febrile "psychoses." He mentioned two cases in Professor Leyden's wards, one a man who had pleurisy with effusion, and who had become depressed mentally by his long illness. The injections (2 to 7.5 mgr.) produced very notable febrile reaction (38.3° to 40°), during which he always became dull and confused. After five injections they were discontinued, and two days later he began to have delusions and was transferred to the insane ward, where his delirium continued to increase. However, these mental symptoms disappeared in a fortnight; they were compared by Dr. Jolly to the delirium of deferescence or post-febrile delirium, not infrequently seen. The man was predisposed by his former depression, and by the excitement attending the hopes of cure by the new remedy. The other patient was in an early stage of phthisis but very wasted, and much enfeebled mentally as well as physically. Although very little fever followed the injections there was severe headache on each occasion, so that after four had been given they were remitted for a time. Then they were again used, and he received fifteen more, always suffering severely from pains in the head. He also lost weight. He then lapsed into a state of melancholia with marked delusions. Mention was also made of a hysterical subject who became markedly delirious after each of three injections she received; she had been very delirious previously during the hectic fever of the phthisis from which she suffered. Although such symptoms might arise only in a minority and were seldom permanent, yet occasionally (in predisposed subjects) they initiated an incurable disorder. Hence the need to proceed very carefully with injections in such subjects.

Dr. Henoch spoke unfavorably of the treatment in pulmonary tuberculosis of children, of whom he had treated twenty by this method. Three of these were in the "advanced" stage, but without fever; they were all made much worse, the fever induced by the injections persisting as hectic. Yet only $\frac{1}{2}$ mgr. (at first he only gave 1-10 mgr.) was given at the commencement of treatment, and the largest dose was 3 mgr. In one case there was temporary improvement, dulness disappearing; only, however, to return with increase of other signs on continuance of the injections. Another case illustrated Professor Virchow's statements. A girl 11 years old, whose mother had recently died from phthisis, had suffered from a cough for a year; but there were hardly any physical signs, except slight dulness near spine of scapula, prolonged expiration, and some rhonchus at apices. An injection of $\frac{1}{2}$ mgr. gave no reaction. One of 1 mgr. produced next day a rise of temperature to 38.6° , and some râles appeared at the left base. Five injections in all were given, and a few days after the last, signs of extensive consolidation of the left lung appeared; and even after a month's interval they had very slightly decreased. Obviously it was not a mere transitory hyperæmia, but whether caseous or catarrhal hepatization could not be determined. There was some suspicion of commencing

excavation, for the breathing, which was intensely bronchial, had an occasional amphoric tone, and the râles were metallic. Prof. Hensch attributed this change without doubt to the injections. He said not one of his cases had been "cured," not one "improved" except the one which subsequently relapsed to a worse state; and he was embarrassed to decide if he should continue the treatment in children any longer. It would be ludicrous in the case of a child to follow the practice of some physicians who do not use the injections except at the patient's own wish. Bearing in mind the tendency for tubercle in children to be dispersed in many foci throughout the body, he felt one would be justified in only using it with the greatest reserve, and perhaps at no distant date in discontinuing the practice altogether.—*The Lancet*.

SOME MILK STATISTICS.

The *American Analyst* says that there are \$2,000,500,000 invested in the dairy business in this country. That amount is almost double the money invested in banking and commercial industries. It is estimated that it requires 15,000,000 cows to supply the demand for milk and its products in the United States. To feed these cows 60,000,000 acres of land are under cultivation. The agricultural and dairy machinery and implements are worth \$200,000,000. The men employed in the business number 750,000, and the horses over 1,000,000. There are over 12,000,000 horses all told. The cows and horses consume annually 30,000,000 tons of hay and nearly 90,000,000 bushels of cornmeal, about the same amount of oatmeal, 275,000,000 bushels of oats, 2,000,000 bushels of bran, and 30,000,000 bushels of corn, to say nothing of the brewery grains, sprouts, and other questionable feeds of various kinds that are used to a great extent. It cost \$150,000,000 to feed these cows and horses. The average price paid to the labor necessary in the dairy business is probably \$20 per month, amounting to \$180,000,000 a year. The average cow yields about 450 gallons of milk a year, which gives a total product of 6,750,000,000. Twelve cents a gallon is a fair price to estimate the value of the milk, at a total return to the dairy farmers of \$810,000,000, if they sold all their milk as milk. But 50 per cent. of the milk is made into cheese and butter. It takes 27 pounds of milk to make 1 pound of butter, and about 10 pounds to make 1 pound of cheese. There is the same amount of nutritive albuminoids in 8½ pounds of milk that there is in 1 pound of beef. A fat steer furnishes 50 per cent. of boneless beef, but it would require 24,000,000 steers, weighing 1,500 pounds each, to produce the same amount of nutrition as the annual milk product does.—*Dietetic Gazette*.

THE FEVERS OF CHINA.

Dr. Coltman, writing in the China medical missionary journal upon the fevers of China, remarks that but little personal investigation on the subject has been made up to the present time, owing to the comparatively recent advent of foreign medical men, and to the want of confidence on the part of natives to submit for any lengthened period to the treatment of a foreign physician, or

in fact to any one physician, their rule being to change doctors two or three times a day if they can afford it. Again, there have been but small hospital facilities for studying fevers, and there is an impossibility of obtaining post-mortem examinations. Dr. Coltman considers that small-pox is the most common disease, nearly every person suffering from it at some period of his or her life. Vaccination, although practiced, is done very carelessly. Measles appear to be common, but is somewhat milder than in Europe. Scarlet fever, although it undoubtedly occurs among the natives, is far less common than amongst Europeans. Erysipelas is rare. Typhoid fever is very difficult to diagnose in the short time that a foreign medical man is allowed to attend a case; but Dr. Coltman thinks that when more accurate reports are possible, this disease will be found to be more common among the natives than is now supposed. Typhus fever is met with all over North China, and as far south as Shanghai. Relapsing fever is found constantly associated with typhus. Dengue does not seem to be known amongst natives. Cholera occurs as an epidemic every few years, and is very fatal. Diphtheria is severe and frequently fatal amongst the natives. Whooping-cough has occasionally been met with. Rheumatic fever is very prevalent in some parts. Chronic muscular rheumatism is common all over China, but is unattended by fever. Malarial fevers appear to be common everywhere, though the prevailing type varies; thus, tertian is most common in Pekin, quartan in Foochow, Swatow, Shanghai and Hangchow, and remittent in Cheefoo and Tientsin. In Chinanfu Dr. Coltman has never seen a case of quartan ague; it is all intermittent of the tertian or quotidian type. The treatment, of course, of all malarial fever is by quinine or some other cinchona bark alkaloid. In Hangchow the carbolic acid and iodine treatment has been used successfully as a prophylactic; arsenic is recognized as valuable in the chronic form.—*Lancet*.

THE BARRING OUT OF FOREIGN DIPLOMAS BY THE ILLINOIS STATE BOARD OF HEALTH.

This action was taken because: 1. The diplomas of medical schools and universities do not entitle the holders to practice in these countries; 2. As may be seen from p. viii of the "Report on Medical Education" of the Illinois State Board of Health for 1891, the Prussian Staats-Examiner Commission rejected in 1890 more than 40 per cent. of the graduates of the University of Berlin, more than 47 per cent. of the Breslau graduates, more than 31 per cent. of the Griefswald and Halle graduates—and in fact more than 29 per cent. of the university graduates that came before the commission; 3. Many of the rejected candidates come to this country; 4. Many such graduates, fearful of failing in the government examinations in their own countries, come to this country to enjoy a privilege denied them at home of practicing medicine simply on their diplomas; 5. The Illinois State Board of Health feels that it should not place upon such diplomas a higher valuation than is given to them in the countries in which they are granted.

* PRACTICAL NOTES

ROTTER'S ANTISEPTIC.

- R. Zinc chloride.
Zinc sulpho-carbolate, aa 3.00 grams (45 grains).
Boric acid, 1.80 grams (27 grains).
Sodium chloride, 0.15 gram (2½ grains).
Salicylic acid, 0.33 gram (6 grains).
Citric acid.
Thymol, aa 0.06 gram (1 grain).
Water, 473.12 c.cm. (1 pint). Mx .

This solution is used for compresses, irrigation of wounds, etc., in surgery.—*Merek's Bulletin*.

IODIDE OF POTASSIUM IN GONORRHOEAL RHEUMATISM.

Rubinstein strongly recommends in the *Therapeutische Monatshefte* the treatment of arthrites and inflammations of the mucous bursæ with potassium iodide after the following formula:

- R. Potassium iodide, Riv .

Distilled water, 5v .

Mix and dissolve. Sig.: Tablespoonful every hour for two or three days.

Amelioration usually begins after three or four doses. Rubinstein reports fifteen cases of acute and subacute gonorrhoeal rheumatism treated in this manner with the happiest results.—*National Druggist*.

TO REMOVE THE PIGMENTATIONS OF PREGNANCY.

In the *Journal de Médecine de Paris*, January 4, 1891, the following ointment is recommended to be rubbed into the affected parts twice daily to remove the pigmentations which so often disfigure pregnant women:

- R. Cocoa butter.
Castor oil, aa 5ij 4.
Oxide of zinc, gr. v.
Yellow oxide of mercury, gr. ij.
Essence of roses, enough to perfume.

A MIXTURE FOR SIMPLE COLIC.

Dujardin-Beauvilliers, it is stated, recommends the following mixture in the treatment of colic:

- R. Strong chloroform-water, 4 ounces.
Decoction of orange-flowers, 4 ounces.
Tincture of capsicum, 2 drachms.

A dessertspoonful of this mixture may be given every fifteen minutes until the pain is relieved.

THE TREATMENT OF GALL-STONES.

Dr. W. W. Seymour, of Troy, in a paper on this subject, after reviewing all the theories as to the possibility of successfully dislodging, dissolving, or otherwise effecting the removal of gall-stones by medicinal agents, concluded with the emphatic opinion that these accretions could not be dissolved, and that all medical treatment for

their dislodgment was likely to prove valueless. He held that operation should be early resorted to in a well-defined case, and an exploratory incision should be made where doubt existed. The mortality, where the operation was undertaken before complications had arisen, was but small, and it should be remembered that a post-mortem diagnosis was of no use to the patient and of very little consolation to the friends.—*New York Medical Journal*.

THE TREATMENT OF SYPHILIS DURING PREGNANCY.

Besnier (*Journal de Médecine*, November, 1890), has obtained good results in the treatment of syphilis, during pregnancy, by the administration of cinchona wine and syrup of the iodide of iron as tonics, together with nourishing food. The patient also took daily a pill containing one sixth of a grain of bichloride of mercury, combined with one twelfth of a grain of extract of opium and one twelfth of a grain of extract of gentian, the whole rubbed up with glycerine. Iodide of potassium was also advised in amounts of from seven and a half to fifteen grains daily.—*American Journal Medical Sciences*.

TREATMENT OF INGROWN NAIL.

Dr. Pürckhauer moistens the surface of the diseased nail with a luke-warm forty per cent. solution of caustic potash, and then scrapes off the softened upper layers with a sharp-edged piece of glass. After a second application of the potash solution the scraping is continued until the nail is as thin as a sheet of paper. It is then lifted up from the soft parts with forceps, and the diseased parts are excised.—*Therapeutic Gazette*.

PREPARATION OF SACCHARIN.

- R. Saccharin, 150 grains.
Bicarbonate of soda, 75 grains.
Distilled water, Oj .

One part of this solution is equivalent to two and one-half times as much sugar.—*Nouveau Remède*.

UNNA'S TREATMENT FOR RED NOSE.

When red nose is due to acne rosacea Unna gives ichthyol internally in doses of 5 grains, and prescribes at the same time lotions of the same substance in aqueous solution. At night, the following paste is applied to the affected organ:

- R. Sulphur, 5ss .
Rice powder, Riv .
Ointment of zinc oxide, 5v .
Mix, and make a pomade.

If the patient is scrofulous or debilitated, he also orders cod-liver oil, syrup of iodide of iron, etc.—*Bacteriological World*.

SOCIETY PROCEEDINGS.

Gynecological Society of Chicago.¹*Regular Meeting of Nov. 21, 1890.*

THE PRESIDENT, DR. W. W. JAGGARD, IN THE CHAIR.

EXHIBITION OF SPECIMENS.—EXTRA-UTERINE PREGNANCY.

DR. C. T. PARKES presented a specimen taken from a case of ruptured Fallopian pregnancy where the history extended back three months, and the symptoms of rupture to three weeks. But three days had elapsed since the operation, and therefore the outcome could not be told.

The second specimen was of a fibroid uterus, removed through the vagina in August last. Electricity had previously been thoroughly tried, but without effect. Upon incising the specimen a small intra-uterine fibroid was found projecting internally, and which could not be cauterized by the intra-uterine electrode.

DR. KARL SANDBERG first offered a specimen of large sized ovarian abscess.

Next was a supposed papilloma of the ovary, removed from a girl sixteen years old, where there had been a history of much pain with marked enlargement of the ovary—since an attack of scarlet fever four years previously.

The third specimen was a tube and ovary apparently normal, but which, from an incomplete history, was evidently the source of the debility and retardation of convalescence from parturition ten months before.

A fourth specimen showed pyo-salpinx, removed three weeks previously. This also followed the puerperal state, and was evidently producing an altered condition of the mind. Since operation, however, all appearances of insanity had disappeared.

DR. HENRY P. NEWMAN read a paper entitled THE REMOTE RESULTS OF SHORTENING THE ROUND LIGAMENTS FOR UTERINE DISPLACEMENTS BY THE NEWER DIRECT METHOD.

After reviewing a few of the technical points of Alexander's operation, particularly with reference to the initiative steps of finding the chord by deepening the wound to the aponeurosis of the external oblique, and referring to the acceptance of a new method first suggested by Dr. J. Frank, of Chicago, the claim of calling this the "direct treatment" was defended by the following distinctive advantages, viz.: 1. The single sweep or two with which we cut down upon the inguinal canal or the glistening aponeurosis of the transversalis muscle, directly over the internal ring, or canal of Nuck. 2. Through a single nick in

the course of the reflected fibres of this aponeurosis the blunt hook may often be passed into the canal and the round ligament pulled out in less time than it takes to tell it; or, by lengthening the incision, it may be exposed along the canal in its entirety. 3. There can be no doubt here of the identity of the ligament as a duplication of the peritoneum is seen surrounding it at its abdominal extremity. 4. The force used in pulling out the ligament is both brought to bear upon it at its strongest portion and is in a direct line with its intra-abdominal course. This is in strong contrast to the old mode of pulling upon its frayed-out terminal fibres at an acute angle with its inner and stronger portion and over the sharp, resisting surface of the ring. 5. Aided by the sense of sight, and seizing the ligament above the inguinal canal, we can feel assured that we are drawing upon the abdominal portion of the ligament, and not merely stretching its inguinal section. 6. As there are few or no adhesions at this portion, there should be absolutely no tearing of the tissues. Consequently, where aseptic methods are used, there should always be healing by first intention, and drainage and after treatment be relatively simplified. 7. Where the ligament is strong and fully developed, as it is in its upper portion, it can be more securely anchored or made fast to the surrounding tissues. 8. Hernia is guarded against by deep sutures constricting the canal about the internal ring, insuring firm union where most needed. 9. The intercolumar fibres and tissues about the internal ring are not interfered with or irritated in any way.

The histories of seven cases were given wherein the operation of abbreviating the round ligaments had been performed. In all the cases two years or more had passed since the operation, and the results were shown to be highly successful. In three cases there was retroversion with prolapsus of both uterus and ovaries; in one procidentia with enlarged, tender ovaries; and the remaining number "presented the usual menstrual disorders indicative of the severer types of uterine and ovarian displacements, and were upward of ten years' standing."

DR. A. W. ABBOTT, of Minneapolis, Minn., reported nineteen cases in which he had done the operation up to November, 1888. All of them were for retroflexion, and not for prolapsus. The Alexander method was closely followed, and without the difficulty described by some. He believed that if Dr. Alexander's directions were followed implicitly the operation would be found simple and easy; at the same time he would not disparage Dr. Newman's ideas. Of his nineteen cases in thirteen the normal position of the uterus is maintained, and of these eleven stand improved, and two unimproved. Of those in which the position is not improved, six; in three the symptoms are improved. Of the total number of operations,

¹ Abstracted for The Journal.

the symptoms have entirely disappeared in ten, in four they are improved, and in five not improved at all. Dr. Abbott believed that the results were far better in the parous state; and that manifest adhesions, or the slightest history of a former peritonitis should preclude operative measures.

DR. F. H. MARTIN reported the same number of cases as Dr. Abbott, and contended strongly for a proper and thoroughly cautious selection of cases. In cases that were well selected the justifiableness of the operation had been well demonstrated. Dr. Martin believed the operation was well indicated in those cases in which the uterus allowed of replacement and retention by a well-fitting pessary, and that it is only in such cases that it should be done.

DR. T. J. WATKINS had performed the operation a limited number of times, and had had an opportunity of observing its results in a large number of cases. "None of these," he says, "were called therapeutically cured, but in many of them an alleged anatomical cure resulted. The suffering in these so-called anatomical cases is caused, in my opinion, either by adhesions, by mal-location of the uterus, or by continuous strain upon the shortened ligaments, that is, muscular strain."

DR. H. P. NEWMAN, in closing the discussion, said: "There will always be failures in this operation where it is done for indications that Alexander's operation is not claimed to cure. Where done as a conservative operation for restoring ovaries, their condition not being definitely known, there is always an element of uncertainty and always a possibility of failure; but the failure should not be referred to the operation, but to the judgment of the physician. In regard to the method I have brought forward, the points that I have stated, I think, are well taken, and, if put in practical use, will perhaps be better realized than they can be by simply hearing them tabulated here."

DR. BAYARD HOLMES read a paper having the title

THE TREATMENT OF ACUTE ANÆMIA BY INFUSION.

After barely touching the history and uses of transfusion, Dr. Holmes struck out with the statement: "Death from hæmorrhage is due to anæmia of the brain;" and "fatal anæmia may be either quantitative or qualitative." The author then dwelt upon the physiological state and quality of the blood, and the loss, both in volume and constituency, which could be sustained before reaching the fatal point. And in considering the loss of blood as the cause of death in obstetrical and surgical cases, as well as in accidents, and as a factor in protracted convalescence, he felt that its best mode of treatment should be well recog-

nized. If one-half the volume of the blood was to be found in the collapsible veins, it was quite evident that they would be first emptied in profuse bleeding. If an anæmic patient be placed in a vertical position, with the head down, the vessels throughout the three vital parts, viz., the brain, heart, and lungs, will be freely distended with the least amount of blood, and therefore the first indication in severe acute anæmia is to procure and maintain this decubitus. Bandaging the extremities would have quite the same effect.

When these measures fail to meet the requirements of the case, the recourse to the infusion of a neutral salt solution will be found necessary. The amount of salt solution, as well as its concentration, was of some moment. Yet it is not unlikely that the establishment of a quantitative equilibrium will prove but temporarily a relief, inasmuch as the oxygen-carrying and nutritive needs of the circulation are not thereby met. It is then the desired result may be won by the transfusion of defibrinated blood.

The paper concluded with the following aphorisms: 1. In dangerous acute anæmia auto-transfusion should first be practiced. 2. When the lymph spaces are drained, as is indicated by the sunken and drawn appearance of the face, or by the time auto-transfusion has been tried and the symptoms of anæmia persist, infusion of a large amount of 0.6 per cent. salt solution should be practiced. The necessary apparatus is so simple and the danger so remote that this measure should not be neglected. 3. The immediate intra-vascular injection of salt solution or blood for acute anæmia cannot be countenanced in the present state of our experience and knowledge. 4. The value of secondary subcutaneous or intraperitoneal injection of blood in cases of so extensive hæmorrhage that a qualitative anæmia is present after the mechanical needs of the circulation are satisfied, is still conjecture, but certainly such injection of blood should not be practiced until reaction is well restored. 5. The immediate subcutaneous injection of blood diluted with a large amount of salt solution is not contra-indicated, but its value is still problematical. 6. The rotary surgical pump is the most perfect and manageable apparatus yet proposed for subcutaneous infusions and injections of large amounts, and for direct intravascular transfusion.

DR. PARKES desired to ask the author what local effect the introduction of a quart of the solution had. He referred to two instances where a large quantity of the salt solution was injected to exsanguinated patients, in both of which good results followed.

DR. F. H. MARTIN commended the apparatus exhibited by the author of the paper. He also spoke of the very favorable results in a case under his care.

THE PRESIDENT mentioned the effect of a pro-

fuse hæmorrhage, and spoke also of the subcutaneous use of the salt solution in a case of profound collapse, and where an almost magical effect was produced.

Philadelphia Electro-Therapeutic Society.

WM. H. WALLING, M.D., SECRETARY.

The February meeting of this society was held at 36 N. Nineteenth St., February 8, PRESIDENT G. BETTON MASSEY, M.D., in the Chair. The minutes of the last meeting having been read and approved, and the Treasurer's report having been received and accepted, the society went into the election of officers for the ensuing year, with the following result:

President, Dr. Matthew W. Grier; Vice-Presidents, Drs. I. P. Willits and Horatio R. Bigelow; Secretary and Treasurer, Dr. Wm. H. Walling; Executive Council, Drs. G. Betton Massey, J. J. Taylor, and W. H. Walling.

DR. MASSEY then read the following paper:

ELECTRO-PUNCTURE OF A CYSTIC GOITRE; DISAPPEARANCE OF BOTH CYST AND GOITRE.

A maiden lady, aged 41 years, was brought to me by Dr. Emily W. Wyeth, Oct. 1, 1889, with an irregularly shaped goitre, about the size of a small orange. The left lobe was much the larger and was the seat of a monocyte of considerable proportions, which had increased very much during the last year, the growth having been noticed about seventeen years. The circumference of the neck at this point was sixteen and three-eighths inches. Treatment was begun by a negative puncture of the cyst with a solid needle, 35 milliampères being used for fifteen minutes. This was followed by a considerable oozing of a straw-colored liquid. Four days later the cyst was evacuated of its contents, measuring an ounce and a half, and 40 ma. negative applied to the cyst walls for ten minutes, by means of the canula acting as an electrode, the latter being insulated as far as the cavity. This procedure was repeated five times subsequently, with current strengths rising to 100 ma., the cavity being permitted to refill after each puncture. Careful measurements showed that the cyst was refilling more slowly after each application, but on Dec. 9 it was decided by Dr. Wyeth and myself to make a free opening and apply the positive pole, by means of a gold bulb electrode, to all sides of the cavity at stated intervals, maintaining free drainage in the meantime. This procedure was required but twice, with currents of 100 and of 50 ma., the drainage-tube, which was most assiduously looked after by Dr. Wyeth, being gradually shortened and removed on the seventh day. During this time the patient suffered a slight rise of temperature, due to a temporary obstruction of

the discharge by accidental removal of the tube. By February 21 nothing remained of the growth but a cicatricial lump about the size of a peach stone, and two months later this had also disappeared without further treatment.

DR. GRIER: Has never treated the cystic variety, but has used outward applications on true goitre with currents of not over twenty-five ma. He used tin electrodes covered with muslin, placing the positive pole on the inferior cervical ganglion, and two negative plates upon the tumor, one on each side. The sittings lasted for five minutes each, being repeated three times a week, for from two to three months. Some preparation of the iodides was also used. Favorable results were obtained in about fifty per cent. of the cases.

DR. PETERSON spoke of a case in which the fluid extract of ergot was used, with good effect, being applied to the tumor upon the positive pole.

DR. BIGELOW: There is a canton in Switzerland in which you cannot walk out without meeting a goitre. The disease is not confined to those who drink the waters, neither to those who carry heavy burdens on their heads.

DR. BIGELOW could not see why the same treatment should not be followed in a fibroid in the neck, as well as in any other part of the body.

In a cystic tumor the action of the current was: 1. Electrolysis. 2. The arresting of secretion, and 3. To compel absorption. He also thought that constriction should act well in such cases. Neggath uses the faradic current in overcoming ovarian cysts. He applies the negative pole to the ovaries, per vagina, and the positive on the abdomen, using swelling currents for an hour at a sitting, obtaining good results in six weeks. It must be the heavy voltage that acts so favorably, and if in one case, why not another?

DR. GRIER had used faradism in goitre, but abandoned it on account of its unpleasant effects.

DR. WALLING: Dr. Massey says that he emptied the cyst before applying the galvanic current. We must be guided by experience, as well as by theory. Why was the positive used? Was not the negative pole the one indicated? In the treatment of hydrocele, Dr. Walling does not drain the sac, unless it is extremely distended, and then but little. Use the negative needle in the tumor, and the positive on the thigh, with a current strength of fifteen ma. for fifteen or twenty minutes. He had excellent results in such cases. Scarcely any inflammation followed, and the contents of the cysts were rapidly absorbed, with obliteration of the sacs.

He had used the strong faradic current, but saw no benefit from it, although it caused strong contractions of the muscles. Why not treat other cysts in the same way? You cannot reach all parts of the surface of the sac, after emptying it, while some parts would be unduly acted upon,

tending to set up too much inflammation. What better electrolytic than the fluid in the sac, thus reaching every portion alike.

DR. MASSEY said he was disposed to regard the faradic current as of no value in cystic tumors; but in one case, where a cyst developed in a fibroid, he used a strong faradic current with great advantage. Heregarded aseptic aspiration, followed by electrolytic puncture, as the best procedure in cystic conditions.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR REGULAR CORRESPONDENT.)

The Physical Advantages of Abstinence—The New Fashion of Naming Bazaars—What a Spell of Severe Weather Cost the Metropolis—Low Death-Rate in the British Army—The Gull Studentship in Pathology—Ether Drinking in Ireland The Barber-Surgeons of London—Female Nursing Service in India—Dr. Koch has a Rival at Edinburgh.

At a meeting recently held for the consideration of the physical advantages of abstinence, the chair was occupied by Dr. B. W. Richardson, who in opening the proceedings detailed some of the researches which he had made at the instance of the British Association in 1863, when he was requested to continue his inquiries into the action of various chemical substances on animal bodies. His observations led him to the conclusion that the effect, even in strict moderation, of alcohol was invariably to reduce the temperature of the body, whilst it neither tended to promote its muscular development nor strengthen its vital power. Dr. Norman Kerr directed his remarks chiefly to young men, and he pointed out that the habitual use of alcohol led to the augmentation of the non-reasoning connective tissue of the brain, with the consequences that there was found to be a perceptible dwindling of and alteration in the shape and power of the reasoning cells of the mind, and he thought that the best physical condition was only to be attained by uncompromising total abstinence from all intoxicating liquors.

In accordance with the new fashion of naming bazaars like dramas, or tales, or other works of art, the title "A Dream of Health for Sick Children," has been hit upon for one at which all of the stalls will represent scenes from the works of Charles Dickens. The bazaar is to be held under royal patronage at Kensington Town Hall, in aid of the fund for furnishing the Convalescent Home for the Victoria Hospital for Children at Broadstairs, Kent. A special feature will be a stall devoted to dressed dolls. Any dolls not disposed of

at the bazaar will be distributed among the children of the Victoria Hospital, Chelsea.

They are now able to tell approximately what the late spell of severe weather has cost the metropolis in lives lost. The first distinct increase of mortality due to the cold was shown in the record for the week ending December 20, when the death-rate had jumped from 21.1 to 26 per 1,000. It reached its maximum, 29.7, on January 3, and the last week of the frost it fell to 25.7. For the six weeks the average rate was nearly 27.7, an increase over that hitherto prevailing of rather over 1.5 per 1,000 per annum. What this means applied to the 3,815,704 inhabitants of London embraced in the returns is that frost, snow and fog have carried off about 2,860 victims in the six weeks. It was a curious circumstance that during the same period zymotic diseases were less fatal than usual.

The death rate in the British Army, as compared with those of Germany, France, Austro-Hungary and Belgium, is extremely low. For last year the death rate of the British Army was .86 per cent. of the whole, whilst Dr. Corput, who has been charged by the Belgian Government to examine the sanitary institutions of Germany, states in his report that the annual army death-rate of Germany is 3.97, of Belgium 4.07, of France 5, and of Austro-Hungary 5.95 per cent.

Sir William Cameron Gull has founded a Gull studentship at the Medical School of Guy's Hospital, with which his father, Sir William Gull, was so long and so honorably connected. The studentship will be of the yearly value of £125, with a further allowance of £25 for apparatus. The appointment will be tenable for three years, and may be renewed for two years more. The student will not be selected by examination and the appointment will be open, though preference will be given to a suitable candidate from Guy's Hospital. The foundation will worthily commemorate the late Sir William Gull's love for pathological studies, as well as his long tenure of office as physician to Guy's Hospital.

Never, perhaps, has the direct relation between death and overcrowding been more strikingly presented than in a little table compiled by Mr. C. Roberts, and included in an article by him in the new paper entitled *Physique*. It relates to the sanitary districts of London, and shows, among other suggestive facts, that whereas in Hampstead, where the allowance of space is 180 square yards to every inhabitant, the death-rate is only 10.5 per thousand per annum, in the Bethnal Green condemned district, where the allowance is 13 square yards only per person, the death-rate is just 40 per thousand.

Ether drinking is practiced largely throughout many districts of Northern Ireland, notably in Derry and Tyrone. According to a Government report, some 100,000 Irish consume 17,000 gal-

lons of impure ether annually, and it is proposed to counteract the baneful habit by introducing naphtha into all ether sold otherwise than medicinally, or else to limit the sale to chemists.

In these days of higher development of the medical art, the idea of associating surgeons with barbers is apt to raise a smile. But however widely the ways of doctors and barbers may now differ, there was a time when the wielders of the lancet were allied by the most solemn ties to the manipulators of soap and razor. The records of the ancient city guilds show how jealously the privileges of these members of society were formerly guarded, and in perusing the volume of "Annals of the Barber-Surgeons of London," compiled by Mr. Sidney Young, one may gain a more particular knowledge of the history of a venerable yet utilitarian craft. The author points out that the barber-surgeons were a professional rather than a trade guild, and their company stood alone as the pioneer of technical education. As long ago as the middle of the fifteenth century the company provided surgical lectures and systematic instruction for its members. Museums, libraries and anatomical theatres were established, and a valuable amount of lasting work was done which benefited the Kingdom at large. Mr. Young holds that the barbers were banded together as early as the thirteenth century. The first record of the company's existence as a trade society bears the date of 1308. The barbers performed many of the minor operations of surgery, such as bleeding, tooth drawing and cauterization. Up to the twelfth century the only reliable surgeons were the clergy, but the Council of Tours held that blood-letting was incompatible with the office of priesthood. At the present time the chief treasure belonging to the Company of the Barber-Surgeons is the well-known famous painting by Holbein, 10 ft. 2 in. long by 5 ft. 11 in. high, which represents either the granting of the charter by Henry VIII or the Royal assent to an Act of Parliament uniting the Barbers' Company with the Guild of Surgeons. The picture is painted on oak panel, and contains nineteen figures. Mr. Young has much that is interesting to say concerning the property, charities, plate, pictures and general features of the Company as it exists to-day.

Through the instrumentality of Sir Frederick Roberts, the Government of India has organized a "female nursing service" for the army hospitals of that country. The nurses to be employed are, it is said, ladies who will be required to show that they have undergone training for at least twelve months in a civil hospital in England in which male patients receive medical and surgical treatment. The scheme constitutes a modification of that inaugurated by Lady Roberts. The number of nurses to be employed will be fixed by the Government. For administrative purposes

the service will be divided into four circles, each under a superintendent, with their headquarters at Meerut, Rawal Pindi, Bangalore and Poona.

Dr. Koch has just reached the age of 42. His father was a mine manager, and young Koch had a hard struggle in his profession. Having passed through the university, he finished his medical education in Hamburg Hospital, and then started as a country doctor in Hanover. He was restless in the provinces, however, and changed several times before he landed in Berlin.

Dr. Koch has a rival in Dr. Russell, of Edinburgh, and Dr. Russell in his turn has a rival in Dr. Stills. A Scotch paper says that considerable discussion has been aroused through a rumor having gained currency to the effect that Dr. H. I. Stills had arrived at the same conclusions as Dr. Russell concerning the extermination of cancer some time ago, and was only awaiting further confirmation before announcing it.

G. O. M.

ASSOCIATION NEWS.

American Medical Association.

Members who intend to read papers before the Section on Practice and Physiology are requested to send titles to the secretary at their earliest convenience, so that by grouping allied subjects and giving timely notice of the programme the work of the Section may be facilitated and the interest of the meeting increased. By request of the chairman.

GEORGE DOCK, M.D., Sec'y,
Galveston, Texas.

SPECIAL CORRESPONDENCE.

Legal View of Insanity Commitments.

To the Editor:—In reference to your editorial citation of David McAdam's (at present Judge of the Superior Court of New York) "Legal View of Insanity Commitments," permit me to state that they have become a laughing-stock among all judges, lawyers and physicians who have any knowledge of the subject-matter, or familiarity with the daily and hourly emergencies to which the physician called upon to deal with the problems of insanity is exposed. His loud and positive declarations were the outcome of an agitation of the subject, provoked by the publicity given to the commitment of one of my private patients. The learned judge has construed for himself a remarkable dilemma. On the one hand he states that his judicial action added no force to the commitment, and that he had indulged in this action in 7,000 cases, on the other he—or at all events the Court over which he presides—becomes the medium to give publicity to what a certain sense of propriety which has thus far appeared to guide our judges, regards as a private, family matter. That the judge assumes no responsibility is correct; it is the physicians who are responsible, and whom the law registers the responsibility of by compelling them to comply with the existing legal forms. It is to be

hoped that—not further hampering legislation, as a few demagogues in our State Senate are attempting to impose—but some measure be adopted to protect physicians against such outrageous and libellous publications as the indiscretions of the legal officers exposed them to, in the very case which led to Judge McAdam's gratuitous farago.

E. C. SPITZKA, M.D.

New York, February 26, 1891.

The Treatment of Carbuncle.

To the Editor:—Under the head of "Practical Notes" in a recent issue, we will all agree with Dr. A. P. Brown in his treatment of carbuncle, as far as crucial incision, use of cocaine, and packing with salicylic acid are concerned; but as for applying a *dirty ointment* to an *open wound* the modern surgeon will most decidedly disapprove of. A better procedure would be, first scrub with soap and HgCl₂ 1-1,000, anesthetize with cocaine, incise, curette, swab with tr. iodine, pack with iodoform gauze and apply a *moist* dressing of HgCl₂ 1-5,000 or carbolic acid 1 per cent.; the latter will lessen pain. Remove dressing once in a day or so, and reapply tr. iodine if necessary and proceed as before.

RALPH CHANDLER, M.D.

135 Grand Ave., Milwaukee, Wis., Feb. 27, 1891.

Shall The Journal be Removed to Washington?

THE ACTION OF THE McLEAN COUNTY MEDICAL SOCIETY. BLOOMINGTON, ILL.

To the Editor:—The following resolutions were unanimously adopted at the regular monthly meeting of the McLean County Medical Society, Thursday, March 5, 1891:

WHEREAS, There is an effort being made to remove THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from Chicago to Washington, D. C.

WHEREAS, The American Medical Association is no sectional body, and when we consider Chicago from its geographical location, so readily accessible from all parts of our country, it being the greatest railroad centre in the world, its unsurpassed mail facilities, and destined to become the greatest medical centre of our country, also in wealth and population.

Resolved, That the Members of the McLean County Medical Society cannot see what advantage THE JOURNAL could possibly gain by its removal to Washington, but believe that such removal would be detrimental to THE JOURNAL and interests of the Association, and, be it further.

Resolved, That the delegates elected to attend the next meeting of the Association do all in their power to oppose the removal of THE JOURNAL.

G. M. SMITH,
RHODA GALLOWAY
F. J. PARKHURST Committee.

To the Editor:—I have always felt the deepest interest in the creation of a journal that would represent the medical living age: around which would be rallied the most cultured minds and ardent efforts of the medical profession in this nation, and which should represent, besides, the most advanced thinkers and workers in all the world. When, therefore, the proposition was brought forward to create THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, I became its enthusiastic supporter and predicted, confidently, its future triumph as the representative of the medical interests throughout the country; and now my judgment is, that it has done well—reflecting great honor upon its editors, the Board of Trustees and Chicago, where it has been so well carried on. Nevertheless, I am bound to say that, in my belief, the managers have been so conservative, so deterred to take no risks that involved a prospect of pecuniary embarrassment, that THE JOURNAL has been kept too much in the rear of the line of a contest for the due rank of medicine in communities and in the State. It has not, I think, been full enough of an aggressive

spirit; nor has it presented early, and in a compact form, the medical progress at home and abroad. The great reason for this, I am sure, has been that the managers have never felt willing, or, I might say, able—to select a highly competent editor, who should direct its way and be held responsible for a high character of work.

No one doubts the editorial capacity of Dr. N. S. Davis, or Dr. Hollister, but these gentlemen, both are large practitioners and could not have afforded to give their entire time to so exacting a situation. Hence THE JOURNAL, excellent and able as it is, has not attained to the exalted position of the leading journal of this country.

Now, this is what THE JOURNAL must become to be commensurate with the spirit and demands of our profession here. Thus far THE JOURNAL has stood only as the child of the Association—nursed by it—not self-dependent, but sustained by the funds remaining in the treasury after all other claims had been satisfied. But now a new state of things should be inaugurated. THE JOURNAL must lead and sustain the Association; it must earn the necessary sums to give to it the broadest character and most elevated rank in the promotion of scientific medicine, and its due social and political influence in the State. It must be able, by its great strength and activity, to fuse into one mass the intelligence, feeling and force of our vast faculty. Our obligations to society are continually increasing; the elevation of the social and political State requires, in a great degree, our coöperation.

The time has come for medicine to demand a place in the administration of the most important affairs. We must insist on the creation of a secretaryship of Public Health, as fully empowered with responsible duties as any other in the Presidential Cabinet.

I suppose that this proposition will be met by derisive jests and supercilious exclamations; nevertheless, the fact remains that there is no other profession that excels ours in positive efficiency to sustain public order, comfort and virtue. We have vast capacities for the direction of society and the promotion of human happiness. At this time I cannot dwell but in a general way upon this topic. Give us the power to direct all that which constitutes hygienic laws—the control of the mode of living of the people: e.g., to secure unadulterated food, pure water, ample light and air space in their dwellings, drainage, disposal of excrement, garbage and offal of every description, regulation of the hours of labor, the protection of childhood from severe toil, quarantine against pestilence, isolation of infectious diseases, the disinfection of certain localities, the overcrowding of school rooms, the abuse of the brain in teaching, the prevention of marriage in hereditary diseased types of constitution and in cases of near consanguinity, the care of the sick, and of the insane in special and general hospitals, and the regulation of those two giant evils of civilization, intemperance and prostitution.

At this moment the profession is manifesting, in a higher spirit than ever before, the purpose of suppressing contagious and infective diseases. This work was begun by Jenner, a century ago, and the awful scourge of small-pox has been nearly stamped out, wherever vaccination is compulsory. We have now assumed the stupendous task of suppressing all the terrible diseases that desolate the world. To accomplish all this we ask for the facilities of the government and the power of law. We must assist, also, in the formulation of appropriate laws and in their effective application.

I affirm that the medical profession is worthy of full recognition by the State in its Councils and by its resources to carry forward its beneficent work. Moreover, our profession lives closer to the heart of humanity than any other. We are bound to lavish our consolatory art upon all races and ranks of society, alike. We cannot abandon the lowest, most degraded, the poorest and most criminal of our fellow beings. We cannot shrink from impact with the pestilence, or the terrible ordeal of battle. It is not the bugle note of "forward," the advance

of the standards, or the roar of the conflict, that excites our enthusiasm; it is the cries of the wounded and dying, the fearful ruin of the field that sustains our energies in the smoke and flame of battle.

During all the dread scenes through which we have so lately passed, the physicians on both sides gave their best services to friend and foe alike; and, when the conflict was over, they were the first to extend the fraternal hand across the red field of war. It is my opinion that, to-day, the strongest bond of union in these United States is the medical profession, founded upon their high order of culture in the "humanities," in science, and that deep sense of sympathy and good-will to men, which makes war abhorrent.

We are often discouraged by seeing our advice disregarded, and feel that our profession does not command properly public confidence. Our opinions, it is said, are unreliable in comparison with other learned professions. We declare this to be unjust. We do not claim that medicine is perfect; we feel its deficiencies; yet we know that a steady and brilliant growth exists, and that, in every respect, we are abreast with other professions. When we compare our opinions with those of lawyers, theologians, statesmen, merchants, manufacturers, civil engineers, etc., we find that all these are tainted with as much uncertainty as our own. Why should not scientific medicine be of equal certainty? We employ the same logical processes in solving the problems of disease as those made use of by all investigators in serious questions. We employ the methods of the calculus in clinical investigations, like those followed by astronomers in solving the problems in celestial mechanics.

Hence, it seems to me a duty on the part of the medical profession to strive for a substantial representation in the Cabinet, in the Senate and House of Representatives, in Congress, by men who shall be distinguished for professional ability and general knowledge of affairs. We know the exalted position held by Rush in the Continental Congress. Since his day a number of distinguished medical men have sat in the Senate and in the House, but their number has decreased since the rancor of partisan politics has become so bitter and the glut of wealth has pushed aside the most capable men, because they have not a money power to back them.

In the British Parliament we see a steady increase in the medical representation. Trousseau, Paul Bert and Nélaton were Senators of France. Virchow has served in German, and Semmola in Italian Parliaments. Who, that recalls all the qualities of Gross, Eve, Flint and H Campbell, can doubt the high rank they would have held in our Senate. The influence of our Association accomplished the elevation of the surgeons of the Army, Navy and the Marine Corps to increased rank and pay.

In regard to the location of THE JOURNAL.

We are all proud of the greatness and splendor of Chicago; she is a wonder of the world; for certainly, no city in the world's history has had as rapid a growth and has so fully developed and maintained as massive a trade in manufacturing and mercantile pursuits. Moreover, it is plain that in the arts and sciences she is making rapid progress—aiming to make the place a seat of learning as well as of commerce. No one can visit that wondrous city and become involved in the ebb and flow of her busy streets, travel through her great avenues and parks, without seeing the most convincing proofs that her stupendous affairs are being directed by minds of vast capacity and activity.

Nevertheless, the consciousness of Chicago is not equal to the consciousness of the Nation—whose central point is Washington. The correspondencies of the latter are limitless. All roads lead to the Capital; *there*, is our father's house, and *there* we are all at home.

The assumption of our higher claims for social and political recognition must first be made good *there*, in order to make them successful; and THE JOURNAL of the

Association shall become our potent advocate. Nowhere else can it exert so great an influence—neither at Chicago, New York nor Philadelphia. I pray our brothers of the Northwest—of which Chicago is conceded to be the capital—to give their good-will to this new movement; not forgetting, though, the honor which Chicago has given to the foundation of the Organ of the Association.

No one of a generous nature, I hope, will asperse this movement towards Washington as one that will lower our noble profession to the plane of common politics. No, we despise the intimation; the politics we shall struggle to develop will be the elevation of medical administration to its proper place as an integral part of public affairs for the promotion of public well-being.

If a general and hearty consent to the removal of THE JOURNAL from Chicago to Washington shall have been agreed to, then the general business management of the Organ and its editorial work will become most important subjects of consideration.

The business management is of the first importance; not second, I think, to the purely editorial; but both must be made the strongest possible and cooperative; and the gentlemen who obtain these places must be paid sufficiently to give THE JOURNAL their entire time. I mean that they shall have no other employment—Governmental or otherwise. In fact, as I see it, their duties shall absorb all their capabilities; and in the editorial work, more especially, large assistance will be required.

In order to secure the best talent for the editorial department, more funds than are now at the disposal of the managers, must be provided. I propose, for this purpose, that an appeal be made to the members, at large, for a loan of \$10,000, in sums of \$50 and \$100, to be returned in due time with interest at 3 per cent. If one hundred persons can be found who will thus loan \$100 each, it will meet the appeal. Professional hope and pride will surely answer such a call, promptly. In this way the whole present income could be devoted to the enlargement of the paper.

The profession in this country needs a journal as great in size and in capacity as that of the British Association. We have the men, the money, and certainly the patriotism. It must and can be made so strong as to become indispensable to the practitioners in our land.

It will become, in nowise, the overpowering rival of our present capable and ably conducted local journals; it will not deprive them of their patronage, professionally or in a business way; and I hope that gradually, it would be able to drop the greater part of its advertisements.

Every practitioner knows that his greatest success depends upon his standing in his own community; so his best productions must be made known to his professional brothers at home. But there are subjects about which he may desire to address the profession at large; in that case THE JOURNAL of the Association would be his vehicle and give him an audience commensurate with the nation. Proceedings of the leading medical and scientific societies, and reports of the great general hospitals, should be promptly displayed in its columns; and the subscribers would, in this way, become furnished with the work of eminent men, here and abroad. Careful reviews of new books should also be produced. It seems to me that not only local journals will be better patronized, but the proceedings of State and local societies will become much more valuable.

In short, when THE JOURNAL shall have been fully equipped, the subscribers shall be kept *au courant* with the progress of medicine in all the States and cities at home and abroad.

We have, in the famous journal of the British Medical Association, an example. It struggled from 1854 to 1867 on the same plane, nearly, as ours; but, when in 1867 Ernest Hart was made editor-in-chief and Francis Powke its business manager, its whole career was quickly changed; the quantity of its printed matter was, at once,

increased and has been more than doubled, so that, now it prints 3,000 pages a year, and its contents include the whole progress of medical science. Its subscription list is about seventeen thousand, and its annual income, including advertisements, is over \$130,000. Its surplus income has accumulated, I understand, to some \$200,000, the interest of which is employed in many ways, to enlarge medical culture and take care of professional interests in the government. The influence of such a medical organ and its power for doing good is incalculable. When, during the past year, the General of the Army, Lord Wolsley, issued a general order, the operation of which was sure to lower the status of the medical corps, *The Journal* promptly but respectfully protested against its execution and secured its modification.

Our great Association, many are saying, has been gradually losing influence in the profession at large. A slow and somewhat insidious disintegration has been manifested for some time past. I have heard it said that, with the death of its eminent founder, there is great possibility of its ceasing to exist. Everybody knows that his indefatigable labors have done vastly much to keep it alive. The indications of decay, it is said, are more especially seen in the formation of so many new societies, semi-national in character, and in the fact that large numbers of distinguished physicians and surgeons stand aloof, and do not participate in its annual meetings as in the past years.

In short, they assume that the Association is not regarded, nowadays, as indispensable for the unification of medical interests as formerly. Its associations are agreeable enough, it is said, but that it is no longer the centre of centripetal and centrifugal forces for the maintenance of our medical system; that were it not for the opportunities it affords for cheap travel to our great cities, the recreation, and the entertainments, which give variety to pleasurable journeys, it would soon go to pieces.

There is no thoughtful man, I think, who could regard the suspension of these annual meetings in any other light than as a public and professional calamity. What the Association has done for the elevation and unification of the profession, I have no space to recount; moreover, I believe that its power to do good could never have been exerted to a greater purpose than at this time. It has required many years to formulate all the methods for its government and higher work. It can and must be made so powerful in promoting a broader and more scientific scholarship, that the fraternity shall, at length, gain the public estimation as the most highly educated and trustworthy class of citizens of the Republic. It must command so much professional regard that every member of the fraternity shall give it his profound reverence, and consider it one of his highest titles to distinction to be a corporate fellow.

With higher culture of professional *esprit de corps*, and sustained by a powerful organ, there can be no aspersion by, nor combination of sectarian or irregular practice, nor any display of self-importance by individuals, or groups of regular physicians who hold themselves apart in haughty satiety, that can restrain the fulfillment of the beneficent aims of the American Medical Association.

If its great purpose can be accomplished in Chicago, let it remain; but I repeat, the consciousness of Chicago is so immensely inferior to that of our political capital, that I hope that all of us may see that the great destiny of the Association may more surely be accomplished at Washington.

CORNELIUS G. COMEGYS, M.D.

Cincinnati, Feb. 20, 1891.

To the Editor:—THE JOURNAL, has the most favorable geographical and business location that could be found in the United States. THE JOURNAL has been a success from the very beginning, and has a history of which its friends may well be proud. It has appeared regularly, and its pages have always been filled with

matter that deserves to be read by every progressive physician. The editorials compare well with those of any medical journal published in the East.

I am satisfied that if the future location of THE JOURNAL would be left to a vote of every member of the American Medical Association as it should be, nine out of every ten votes would be cast for Chicago.

If our brethren in the East wish to make THE JOURNAL what every member and the Supervising Editor wants it to be, let them contribute scientific articles for its columns, which will be eagerly read and thoroughly appreciated by every member of the Association, instead of wasting time and talent in criticising the present management.

N. SENN.

Milwaukee, March 4, 1891.

To the Editor:—It was resolved, at a recent meeting of this Board, that it is the desire of this College that the place of publication of THE JOURNAL remain in Chicago.

W. F. MILROY,

Secretary Board Trustees,

Omaha Medical College.

Omaha, Neb., March 4, 1891.

To the Editor:—I think that Chicago is much the better place for the publication of THE JOURNAL, it being the most central and most convenient place. I have written to the different members of the Board of Trustees, expressing my views on the subject.

The membership of the American Medical Association is made up largely of physicians who live in the West and South; the most active work in the Association is done by members who live in the territory tributary to Chicago, and I am quite certain it will be found that a vast majority of the members of the American Medical Association wish to have THE JOURNAL published in the future, as it has been in the past, in the city of Chicago, and would look with jealous eyes upon any attempt to remove it elsewhere. They will certainly most bitterly oppose any attempt to remove it farther East.

St. Paul, Minn., March 2, 1891.

JOHN F. FULTON, M.D.

To the Editor:—The American Medical Association may now be considered a success. THE JOURNAL, published where it has been, in Chicago, and edited as it has been, has contributed more to accomplish this end than any other and all other influences combined. Believing this as strongly as I do, I say let it alone! All things that are doing well should be let alone. Chicago is nearer the home of the great number who contribute to the make-up and support of the Association than New York, Philadelphia, or Washington City would be. Men will support home matters better than they will more distant ones.

Dr. N. S. Davis, of Chicago, has done more to make the Association a success than any other man. Why should he be thus insulted and his home despised? I for one am opposed to this high-handed outrage.

ROBERT CRAWFORD, M.D.

Cooperstown, Pa., March 3, 1891.

To the Editor:—Deeply interested in every move likely to contribute to the enhancement of material and scientific interests of THE JOURNAL, we regard as the exponent of the best literary and scientific culture of the first, best and largest medical organization of our country, I cannot but enter my personal protest against the removal of the "plant" and editorial management of THE JOURNAL from Chicago to Washington, D. C. Certainly no man of broad scholarship, literary and scientific culture, can find one incontrovertible argument in favor of the contemplated change. In every element of material

advantage, and facilities for ready and quick distribution, no city in our country, when we regard THE JOURNAL'S constituency, is comparable to Chicago. And I feel assured no man will have the temerity to deny us such a measure of classical, special and general scholarship as render secure the best educational interests of this representative journal? Central, ambitious, progressive, our city furnishes all the splendid environments calculated to inspire the best editorial management. I vote for Chicago!

WILLIAM T. AKINS, M.D.

Chicago, March 7, 1891.

To the Editor:—It is my opinion to the best interests of THE JOURNAL to have it remain in Chicago. The geographical location of Chicago is superior to Washington or any other city. It being the great commercial centre of the Northwest, and a centre for medical education. Hence it would not be advantageous to the interests of the Association, and a detriment to the financial interest of THE JOURNAL, depriving it from a large legitimate advertising patronage, a factor in support of THE JOURNAL.

The editorial department has been well managed and gives, I believe, general satisfaction to the majority of the members of the Association. It would be wise to let well enough alone.

THOS. W. FORSHEE, M.D.

Madison, Ind., February 26, 1891.

To the Editor:—I am in favor of keeping THE JOURNAL where it now is.

B. F. ROLFE, M.D.

Staceyville, Ia., March 6, 1891.

MISCELLANY.

DR. HOSMER ALLEN JOHNSON.—At a recent meeting of the Council of the Northwestern University it was

Resolved, That by the death of Hosmer Allen Johnson, A.M., M.D., LL.D., the Northwestern University has lost one of the most active and efficient founders and supporters of its medical department, an active and wise member of its Board of Trustees and Council, and an influential patron and friend of all its interests; the medical profession one of its most learned, skillful and honorable members; the city and State one of its most enlightened, patriotic and useful citizens; the cause of education and sanitary science one of their most earnest supporters; and his family one of the most unselfish and affectionate of husbands and fathers.

Resolved, That the foregoing be entered upon the records of this Council, and a copy of the same transmitted by the Secretary to the family of the deceased, and a copy furnished for publication in the medical journals.

LETTERS RECEIVED.

Antonius, Ill.: Dr. A. Moll.
Arcadia, Wis.: Dr. G. N. Hidershede;
Ardmore, Pa.: Dr. J. S. Gerber;
Auburn, N. Y.: Dr. J. P. Creveling.
Baltimore, Md.: James O'Connor.
Boston, Mass.: Dr. A. C. Garratt.
Brooklyn, N. Y.: Dr. Mattison, Dr. R. M. Wyckoff.
Buffalo, N. Y.: Ross, Daniels & Co.
Burlington, Ia.: Dr. M. B. Tuttle.
Cat Creek, Ky.: Dr. M. T. Mansfield.
Charleston, S. C.: Dr. C. W. Kollock.
Chicago: Dr. W. F. Caselberry, Dr. Viola M. French, Moses P. Handy, Dr. W. Whitford, Dr. J. C. Hoag, Dr. J. G. Bemis.
Cincinnati, O.: Dr. G. A. Cullen, Cincinnati Public Library.
Cleveland, O.: Dr. D. P. Allen.
Content, Texas: Dr. W. H. Anderson.
Davenport, Ia.: Dr. W. R. Alexander.
De Kalb, Ill.: Dr. E. L. Mayo.
Detroit Mich.: Parke, Davis & Co.
Edisto, S. C.: Dr. J. C. Woodruff.
Elkhorn, W. Va.: Dr. A. Reyburn.
Elmo, Ky.: Dr. J. P. Thomas.
Etina, Cal.: Dr. C. W. Nutting.
Fort Dodge, Ia.: Anton Rank.
Fulton, N. Y.: Dr. N. F. Hall, Dr. C. G. Bacon.
Grand Rapids, Mich.: Dr. Reuben Peterson.
Greely, Colo.: Dr. J. P. Wallace.

Greensburg, Pa.: Dr. J. C. Kaffer.
Grove City, Ill.: Dr. K. S. Anderson.
Harold, Neb.: Willie Calkins.
Hartford, Conn.: Plimpton Mfg. Co.
Hartland, Vt.: Dr. D. F. Rugg.
Indson, Ind.: Dr. J. T. Ball.
Kansas City, Mo.: Dr. M. A. Bogie.
La Crosse, Wis.: Dr. Chas. Otille.
Lebanon, O.: Dr. C. A. Hough.
Lincoln, Neb.: Clasen & Fleuber, Dr. G. H. Simmons.
Louisville, Ky.: J. A. Flexner, Paul Kratz, Dr. W. Walling.
Loveland, O.: Dr. H. H. Peachy.
Maroa, Ill.: Dr. E. A. Morgan.
Marshall, Mich.: Dr. G. H. Greene.
Menasha, Wis.: S. J. M. Putnam.
Miamisburg, O.: Clarke, Forbes & Co.
Milwaukee, Wis.: Dr. E. W. Bartlett.
Mt. Lebanon, Pa.: Dr. T. J. Fouts.
Mt. Pleasant, Iowa: Dr. F. P. Peck.
Newmarket, Eng.: Dr. G. O. Mead.
New Orleans: Dr. M. J. Magruder.
New York City: Robinson-Baker Advertising Bureau, Reed & Carnrick, New York and Chicago Chemical Co., H. Bates, Dr. E. C. Leighton, J. Moxius & Son, W. F. Cleary, Dauchy & Co., The U. S. Mail, Geo. P. Rowell & Co., Boehringer & Soehne, B. Westermann & Co., N. Y. Post-Graduate Medical School, J. F. Madden.
Omaha, Neb.: Dr. E. C. Moore.
Ottawa, O.: Dr. C. E. Bendsley.
Paris, France: Rigand & Chapoteant.
Peninsula, O.: Dr. W. N. Boersler.
Phila., Pa.: Dr. R. J. Duggins, Dr. Edward Jackson.
Piquetteville, Pa.: Dr. W. H. DeLang.
Pittsburg, Pa.: Remington Bros., Western Pa. Medical College.
Quincy, Mich.: Bennett's Newspaper Agency, Dr. M. F. Bassett.
Rock Rapids, Ia.: A. M. Vail.
St. Louis, Mo.: Dr. Wm. Dickinson, Battle & Co., J. H. Chambers & Co., A. L. Pope, Dios Chemical Co.
Salem, Mass.: Dr. Wm. M. Parker.
Spokane Falls, Wash.: Dr. K. S. Thomson.
Stanford, Ky.: Dr. J. G. Carpenter.
Tennsich, Mich.: Dr. Geo. Howell.
Titonsville, Pa.: Dr. T. J. Young.
Warrensburg, O.: Dr. Wm. McIntyre.
Washington, D. C.: Dr. S. M. Burnett.
Zanesville, O.: The Courier Co.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 1, 1891, to March 6, 1891.

Major Samuel Horton, Surgeon, is granted leave of absence for two months, on surgeon's certificate of disability. By direction of the Secretary of War. Par. 7, S. O. 49, A. G. O., Washington, February 4, 1891.

Capt. William O. Owen, Jr., Asst. Surgeon, is relieved from further duty in the Dept. of the Missouri, and will report in person to the commanding officer, Jefferson Bks., Mo., for duty at that station, by letter to the Superintendent of the recruiting service. By direction of the Secretary of War. Par. 2, S. O. 44, A. G. O., Washington, February 26, 1891.

The following named officers, having been found by Army Retiring Boards incapacitated for active service on account of disability incident to the service, are, by direction of the President, retired from active service at this date, under the provisions of Section 1251, Revised Statutes: Capt. J. Victor De Haune, Asst. Surgeon, and Capt. William R. Steinmetz, Asst. Surgeon. Par. 18, S. O. 44, A. G. O., February 26, 1891.

Major Henry M. Cronkhite, Surgeon, will report in person to the commanding officer, Ft. Adams, R. I., for temporary duty at that post, until the arrival of a successor to Major Samuel M. Horton, Surgeon, when he will return to his proper station. By direction of the Secretary of War. Par. 5, S. O. 45, A. G. O., Washington, February 27, 1891.

Capt. Frederick W. Elbrey, Asst. Surgeon, having been examined by a board of officers and found physically disqualified for the duties of a surgeon with the rank of Major, by reason of disability incident to the service, is, by direction of the President, retired from active service with the rank of Major, under the provisions of the Act of Congress approved October 1, 1890, to date from February 24, 1891, the date from which he would have been promoted to the grade, by reason of seniority, if found qualified. Par. 1, S. O. 45, A. G. O., February 27, 1891.

The following named officers having been found by Army Retiring Boards incapacitated for active service, on account of disability incident to the service, are, by direction of the President, retired from active service this date, under the provisions of section 1251, Revised Statutes: Major William S. Tremaine, Surgeon, Major Leonard V. Loring, Surgeon. Par. 19, S. O. 45, A. G. O., Washington, February 27, 1891.

Capt. William B. Davis, Asst. Surgeon, the extension of leave of absence granted in S. O. 22, Div. of the Atlantic, February 5, 1891, is further extended one month. By direction of the Secretary of War. Par. 5, S. O. 46, A. G. O., Washington, February 28, 1891.
Major Henry Lippincott, Surgeon, is relieved from duty at Ft. Union, N. M. to take effect upon the final abandonment of duty in post, and will then proceed to Ft. Adams, R. I., and report in person to the commanding officer of that post for duty as Post Surgeon, reporting by letter to the commanding General, Div. of the Atlantic. By direction of the Secretary of War. Par. 9, S. O. 46, A. G. O., Washington, February 28, 1891.

THE
Journal of the American Medical Association.

EDITED UNDER THE DIRECTION OF THE BOARD OF TRUSTEES.

PUBLISHED WEEKLY.

VOL. XVI.

CHICAGO, MARCH 21, 1891.

NO 12.

ORIGINAL ARTICLES.

ECTOPIC PREGNANCY: WITH PRESENTATION OF SPECIMEN.

Read before the St. Louis Medical Society January 21, 1891.

BY YOUNG H. BOND, M.D..

OF ST. LOUIS, MO.

PROFESSOR OF GYNECOLOGY, MARION-SIMS COLLEGE OF MEDICINE.
ATTENDING GYNECOLOGIST TO THE GRAND AVENUE FREE
DISPENSARY; CONSULTING GYNECOLOGIST TO THE
ST. LOUIS FEMALE HOSPITAL AND ST. LOUIS
CITY HOSPITAL.

I do not wish to report a case of mere ectopic pregnancy, since I did not see the patient from whom this specimen was obtained. She bled to death and presented the usual symptoms incident to a lesion of this character; the diagnosis was not made.

On post-mortem the abdominal cavity was found filled with clotted blood, which had proceeded from a rupture of the right Fallopian tube.

With great confidence, I pronounce this a case of ruptured tubal pregnancy; for whilst no fetus was found (none being sought for), the gross appearance of the parts justifies the exclusion of all other lesions to which the tubes are liable. Nothing is found to sustain the belief that the inflammatory disturbances to which the tubes are liable, or the neoplasms which, in rare instances, attack them, produced the pathological appearances present. Extravasation of blood into the tubes, with subsequent rupture into the abdominal cavity, in consequence of distension, unassociated with extensive inflammatory alterations of the walls of the tube, rarely, if ever, occur; therefore, there is no question but that the specimen is that of a ruptured tubal pregnancy. It will be submitted to Prof. Summa for microscopic examination, and there is no doubt that histological appearances will be found that will demonstrate the existence of placental tissue at the point of rupture, and that the uterine cavity is lined with a membrane approaching in character decidua vera. We have here the uterus, together with both broad ligaments and ovaries. The uterus is three times as large as the normal unimpregnated uterus, and from its size we may predict there will be found evidences of chronic metritis, associated with an increased development of the mus-

cular element, the latter being incident to the innervation of pregnancy.

The uterus is much larger than is usually the case at the stage of extra-uterine pregnancy reached in this instance, which is perhaps six weeks. The ovaries, too, are quite large. No evidences of a corpus luteum of pregnancy can be detected. Small cicatrices can be seen, the sequelæ, perhaps, of ruptured follicles, but nothing pathognomonic of a corpus luteum of pregnancy.

In 1881 Mr. Tait stated that evidence was rapidly accumulating in his hands that "corpora lutea are not a necessary result of the maturation and shedding of true ova;" and in 1889 he reiterates the same assertion. The determination of the truth in this regard may possess an important medico-legal bearing, and no case that may come before us that can throw light upon this subject should escape scrutiny. Perusal of nine-tenths of all that has been written upon the subject of ectopic pregnancy will impress one with the belief that ectopic gestation is a veritable curiosity—a case of nature let loose, without restraining or guiding influences, that should act with any degree of uniformity in determining the steps of her aberrant course. And as a consequence, it was for a long time thought to be idle to attempt to establish anything like a defined line of action, in dealing with a process so eccentric. Thus is explained the fact that century after century rolled on, and no intelligent method of combating the deadly agency of this process was discovered. Countless thousands of women have gone to their graves prematurely, because no Tait had arisen to unravel the mysteries of ectopic gestation, and point out a sure and reliable method of dealing with the same.

Although the propriety of performing laparotomy, tying off the vessels, and removing the gestation-sac, had been by many suggested, it was not until 1883 that one appeared who had sufficient courage and conviction upon the subject to put his conceptions into actual practice. In 1873 Tait formulated certain conclusions respecting ectopic pregnancy, and so far as has come to my knowledge, all carefully conducted observations upon the subject since then have served to establish their correctness.

He claims that all ectopic pregnancies are pri-

marily tubal, unless, perchance, there should be an ovarian variety, which, as yet, has not been proved. Clinically, two kinds of tubal pregnancy are met with, viz.: the one occurring in the free portion of the tube, and the other in that portion of the tube embraced in uterine tissue, the old interstitial form.

In explaining the cause of Fallopian pregnancy, he refers to the similar states found in the mucous surface of the uterus after menstruation, and that of the tubes in desquamative salpingitis.

Menstruation is regarded as a nidation process, a state in which the epithelial layer of the mucous membrane of the uterus has been thrown off, thus fitting the cavity for the retention and nutrition of the fecundated ovum during the period of its early existence, and for the formation of the placenta subsequently.

The cilia of the healthy tube, acting toward the uterus, assist in conducting the ovum to the uterine cavity, and at the same time hinder the ingress of spermatazoa.

A result of desquamative salpingitis is to remove the cilia and place the mucous surface in a vascular state similar to that of the uterus after menstruation, as regards its power to furnish nutrition to the ovum in its early life. Parenthetically I will state that the conditions for the formation of the placenta are not limited to uterine tissue, even though the Fallopian tubes be regarded as a part of the uterus.

When we reflect that the placenta is a product of the chorion, and that the latter is the property of the ovum, we can understand how the inherent forces of the fecundated ovum will take on activity, if the requisite warmth, moisture, and nutritive elements are at hand, as has been evidenced by the implantation and growth of fertilized ova along fistulous tracts following hysterectomy.

In confirmation of the desquamative theory, Parry says "women who have become pregnant outside of the uterine cavity often show a previous inaptitude for conception, the interval between marriage and the first impregnation being frequently very long.

If the woman has borne children, a period of sterility frequently precedes the extra-uterine pregnancy. The fact that the woman has been sterile points to the conclusion that there has been Fallopian trouble. The recent observations of Formas, read at the meeting of the American Association of Obstetricians and Gynecologists, serve to confirm the theory of Tait as to the influence of desquamative salpingitis in occasioning extra-uterine pregnancy.

If it be conceded that impregnation usually takes place in the tube, we thence derive an argument against the theory that desquamative salpingitis plays an important rôle in causing Fallopian pregnancy. It will be remembered that in the latter part of the last century and the early

part of this, it was believed that the spermatazoa passed along the Fallopian tube, reached the ovum and conception took place at the ovary, and that the impregnated ovum retraced its steps and entered the cavity of the uterus.

Experiments on lower mammals show that the spermatazoa are usually found high up in the cornua of the bi-partite uteri (the cornua erroneously supposed to be Fallopian tubes). Fallopian tubes only exist in the higher order of animals, those that have assumed the upright posture. That is the position advanced by Mr. Tait.

The observations of Parry and Formas as regards the association of sterility and extra-uterine pregnancy, will find general confirmation. The very first case of extra-uterine pregnancy of which we have any history was furnished in 1594, when a Dr. Primrose operated successfully. That case was preceded by the occurrence of extra-uterine pregnancy, a dead child having been removed several years before through a large aperture in the abdominal parietes in consequence of necrosis of the part.

An ovarian pregnancy may possibly occur, but it has not been conclusively shown. In consonance with the view that pregnancy occurred at the ovary, it was formerly believed that most cases of extra-uterine pregnancy were really cases of ovarian pregnancy.

Many pathological specimens are found in museums labeled "ovarian pregnancies," and the appearances furnished by a Fallopian pregnancy when the gestation-sac has not been ruptured, are very suggestive of an ovarian form. But a close examination of these specimens serves to demonstrate that very few, if any, are ovarian pregnancies. Possibly some of them are ovarian in part, and that we might expect; we have cysts involving the fimbriated portion of the Fallopian tube and the ovary; both structures playing a part in their formation; and it is reasonable to suppose that in certain instances the fimbriated extremity of the Fallopian tube, in consequence of inflammatory action, would become adherent to the ovary, and the spermatazoa be carried down to the ovary, and impregnation there take place. In that case we would have a combined form of ovarian and Fallopian pregnancy. In one portion of the gestation sac we would have ovarian tissue and in the other the tissue of the Fallopian tube. In order to prove that any case is strictly one of ovarian pregnancy, it would be necessary that the Fallopian tube should be intact (normal), the uterus should be intact, and at least one ovary thoroughly intact; and whilst the other ovary might not be present, to demonstrate conclusively that it was an ovarian pregnancy, ovarian stroma should be found throughout the cyst wall of the pregnancy. I do not know a single case recorded in which ovarian tissue had been found throughout the cyst wall.

Tubal Form of Pregnancy.—Mr. Tait claims that all ectopic pregnancies are primarily tubal, taking place in the free or interstitial portion of the tube. It is only exceptionally the case that impregnation takes place in the uterine portion of the tube. When, however, tubal pregnancy occurs the fecundated ovum will be accommodated in the Fallopian tube only for a short time; the tube will be ruptured at some time before the expiration of the fourteenth week. If the rupture occurs at the upper portion of the tube where the layers of the broad ligament fall over it as a curtain, the opening will be into the peritoneal cavity; and we will have as a result death from hæmorrhage or septic peritonitis. In the vast majority of cases death very promptly ensues, usually in time ranging from a few hours to a few days. The patient may die from hæmorrhage in its primary stage—there being no interruption to the hæmorrhage from the first to the last. It may be stayed for a time by a clot, and then recur. As a rule, death ensues from primary hæmorrhage, since there are no influences to arrest it. The parts being exceedingly vascular at the point where the hæmorrhage occurs a large quantity of blood is poured into the peritoneal cavity. By its presence peristalsis is excited; the patient in consequence of her suffering is restless; cannot be kept still; therefore, the conditions requisite to the coagulation of the blood cannot be complied with.

When rupture occurs at the lower portion of the tube, we have a sub-peritoneal pregnancy, and there ensues one of five results:

1. The fetus may live and reach a viable period.
2. It may be converted into a lithopædion.
3. It may perish and be absorbed as a hæmatoma.
4. It may undergo suppuration and may be discharged through the bowel, vagina, the bladder or abdominal wall at or near the umbilicus.
5. It may develop up to a certain point and then rupture into the peritoneal cavity, constituting what is known and designated as a secondary rupture. This secondary rupture may cause death, or the fetus may be extruded into the abdominal cavity without amnion, chorion or decidua to invest it. Cases are reported in which the fetus has been found in the abdominal cavity, surrounded by the intestines, with no proper covering at all; but in such instances the placenta was found in general attached sub-peritoneally, and the presumption is strong that the pregnancy had proceeded up to perhaps the seventh or eighth month, and then a portion of the broad ligament had given way, and the fetus was emptied into the free peritoneal cavity. This assumption is supported by the fact that the peritoneal secretion exercises a decided digestive influence upon soft structures such as obtain during the early life of the embryo.

Nor is the rupture of the Fallopian tube due to distension. At the point where the placenta happens to grow, if from the upper wall of the tube, it will penetrate the true tissue of the tube in the form of venous channels, the tubal tissue becoming constantly thinner; a rupture will finally take place as a consequence, and then, of necessity, an alarming hæmorrhage occurs.

If the placenta should be developed at the lower portion of the tube, in the direction of the space between the broad ligament, a rupture will take place by the same processes, in that direction, and then are presented either of the five conditions enumerated.

Diagnosis.—It surely is a decided desideratum to be able to diagnose extra-uterine pregnancy—tubal pregnancy before rupture. Were we thus endowed, and the proper course pursued, many lives would be saved. Should the patient consult us about her condition previous to the time of rupture, and we be induced to make a physical examination, I should think the testimony of physical signs considered in connection with the subjective symptoms, in the vast majority of cases, would amply justify the presumption of extra-uterine pregnancy; in fact, a presumption so strong that the neglect to make an exploratory laparotomy would be inexcusable. Suppose a case: A woman gives the history of sterility, a condition not the consequence of her choice; has been regular in her menstruation, and yet a few weeks previously she had missed a menstrual period; had passed a week, ten days or two weeks or more; then menstruation returned, profuse and irregular; she had pain in the region of the Fallopian tube; her attention is directed to that region by the sense of discomfort, and recurring attacks of pain; her breasts are enlarged; suffers from nausea; and may or may not present those subjective indications of pregnancy that exist when the pregnancy occurs in the uterus.

The cervix is soft, and the uterus continues to develop up to about the first or second month; and in addition, we have in the region of the Fallopian tube, upon the side of the uterus or posteriorly to it, a mass of appropriate size and form to that of a pregnancy at the particular period. This combination of symptoms would furnish strong presumptive evidence of pregnancy; if, however, after one examination had been made and the size of the mass definitely ascertained, a subsequent examination should reveal a proper increase in size, then the conclusion would be almost inevitable. In a case of hydro-salpinx the outline of the tumor, in a case of pyo-salpinx, the increased sensibility will assist in reaching a satisfactory conclusion. Diagnosis of tubal pregnancy, before rupture, have been made, and appropriate operations performed; and when this sequence of symptoms is present our minds should be on the *qui vive* for the possibility of such a

condition of things. The diagnosis of tubal pregnancy at the time of rupture is almost unequivocal; no excuse could hardly ever be claimed for failing to diagnose it, and to invoke promptly the one only surgical interposition that can rescue from impending death. The woman, as a rule, is taken suddenly ill; complains of pain in the pelvic region; at once becomes collapsed; is faint; is almost pulseless; cries for water, the demand being like that of the wounded soldier when profusely bleeding; her anæmic state indicates conclusively that she is suffering from loss of blood, and if there is no palpable explanation for it elsewhere, it is imperative that her surgeon open the abdomen and ascertain that she is not bleeding from a ruptured Fallopian tube.

In respect to a diagnosis of a rupture of the tube into the broad ligament, the subjective symptoms render less assistance than in the case of rupture into the abdominal cavity, but the physical indications are more positive. The woman suffers from collapse to a degree corresponding to the amount of blood effused. In some it is very great; even to the separation of the broad ligament and the formation of a virtual stricture around the rectum, and thus obstructing the passage of the feces. In such cases the degree of systemic disturbance is very pronounced. If the symptomatic history of extra-uterine pregnancy be present together with the sudden occurrence of collapse, and the finger introduced into the vagina detects a hæmatoma, of concave form below, and sufficiently large to reach the pelvic inlet, being convex above, the conclusion is almost absolute that the case is one of tubal pregnancy ruptured into the broad ligament. If the rupture has thus taken place, and the child continues to live, it will be impossible to diagnose the existence of a living child until after the expiration of the fourth month. After this period the heart sound and soufflé will afford sufficient data to determine the existence of a living child. In case of the death of the child, at or near full term, there usually precedes a process of spurious labor. Women sometimes are in labor for several days, exhibit symptoms that simulate those of true labor, but the cervix is not drawn out as it is in normal pregnancy at the full period. After the cessation of labor pains the mass promptly becomes reduced in size, the amniotic fluid undergoes absorption, the amnion closely invests the child, and the process of digestion rapidly goes on. Prompt reduction in the size of the abdomen in connection with the absence of motion is one of the strongest evidences that an extra-uterine foetus has perished.

Interstitial Pregnancy.—It is impossible to diagnose this condition either by physical or subjective symptoms on account of the many and conflicting conditions that exist. These cases usually rupture into the peritoneal cavity at a

time varying from three to twenty weeks. If it were possible to diagnosticate a case of interstitial pregnancy, one mode of treatment only would be indicated, viz., Porro's operation, removal of uterus and child.

Treatment.—Primary rupture into the abdominal cavity demands laparotomy promptly; that portion of the broad ligament in which the sac is situated must be ligated and removed. The result in such cases is usually a very happy one. Mr. Tait reports thirty-eight cases with only one death; Martin reports eleven cases with three deaths; others report favorable results; therefore, in view of the fearful mortality that obtained previous to the institution of this method of treatment, there no longer exists any question as to the propriety of this procedure.

In Case of Rupture into the Blood Ligature.—If the foetus perishes at the time of rupture, a hæmatoma is formed; if the hæmatoma be moderate in size the question arises, shall it be removed surgically or shall it be left with the hope that it will disappear by absorption. Some contend that an operation is the proper thing; others deny that laparotomy and the opening of the broad ligament and cleaning out the collection of blood is the best course. If the condition of the patient seems not to be serious, and the collection of blood not unduly large, I would be disposed to leave it to be absorbed; for hæmatomata are not of very uncommon occurrence, and it is known that they generally undergo absorption.

As a rule, therefore, no operative measure is called for, as this mass of blood will be absorbed. It has been contended, however, that in all cases of hæmatoma complicated with extra-uterine pregnancy, that removal by abdominal section or an operation on the broad ligament through the vagina should be practiced for the reason that in such cases sepsis sooner or later attacks the effused blood, upon the assumption that the desquamative salpingitis was due to a septic condition, and that the septic germs still existing in the Fallopian tube would, in the course of six months or more, infect the blood poured out into the broad ligament. As a matter of course, if the discharge of blood into the broad ligament was of such extent as to endanger the life of the patient or render it almost certain that suppuration would ensue, the wise course would be to perform laparotomy, open the broad ligament, cleanse it thoroughly, and if necessary use some styptic application and stitch the divided portion of the broad ligament to the abdominal opening, and if necessary insert a drainage tube.

What line of action shall be adopted when extra-uterine pregnancy is diagnosed at the fourth month or thereafter, the foetus being alive but not viable? Shall efforts be made to destroy the child by electricity, by the injection of morphia or by other means, or shall we by a laparotomy

remove it at once, or wait till it reaches a viable period and then attempt to save both mother and child?

When such a case is diagnosed as early as the fourth month, or soon thereafter, an attempt at its removal should be made, otherwise the interests of the mother will be compromised in a degree commensurate with the delay up to the viable period or beyond, for the smaller the placenta the less the danger; the greater also the possibility of tying off the vessels and greater likelihood of saving the mother. But if the child be near the viable period I should wait until it reached the full period.

Martin, of Chicago, has recently experimented with the view of determining the comparative potency of the faradic current and galvanic current in destroying eggs in the process of incubation, and has awarded it to the latter.

In regard to the destruction of the child, statistics show that in 1888 and 1889 eleven cases were operated on in which the children were viable; four mothers died, and four children were saved, making a mortality of 36 per cent. In operations performed from six to eight weeks after the death of the fetus, of forty-four cases reported in 1888 and 1889, there were nine deaths, a mortality of 20 per cent.

These are vastly more favorable results than were obtained in the time of Parry, who says in 1873, "of nine women operated on during fetal life, or soon after its extinction, they all died." Then the clamp was in use, and no antiseptic precautions were employed. Consequently, causes of mortality prevailed that do not exist at the present day.

Operation of Laparotomy, Removal of the Living Child.—Mr. Tait recommends that the umbilical cord be tied close to the placenta and that the latter be left intact. The abdominal incision should be made not in the median line, the conception being below the broad ligament, as the gestation sac increases in size the broad ligament is carried up; consequently, the incision is made to the right or to the left of the median line, as the case may require; if the child is upon the right side the incision should be to the right of the median line, and *vice versa*. By that means it is sought to avoid entering the peritoneal cavity at all. The sac, after thorough ablation, atmospheric air being displaced by hot water forcibly injected and gradually abstracted, is sewed to the opening in the abdominal wall, hermetic closure being attempted.

Efforts have been made to remove the viable child through the vagina, but the results have been unfortunate. I am acquainted with but one case in which a living child has been thus removed. The circulation under such circumstances is so seriously interfered with that the child perishes before delivery is accomplished; lapar-

otomy, therefore, furnishes a much more promising mode of operation, in these cases, than extraction per vaginam.

If the child, however, has developed in the broad ligament, and a rupture, with hæmorrhage, has taken place secondarily from the broad ligament into the peritoneal cavity, and the symptoms are sufficiently grave, then it will be imperative that we open the abdomen, ligate the vessels below the placenta, if possible, and remove the extraneous parts.

In case of suppurating ovum, the mass not being large, and it being possible to reach it readily from the vagina, its removal in that direction is advised; but if the mass be large and there be complicating conditions resulting from inflammatory states, laparotomy and removal of the suppurating contents is the proper procedure. The cyst wall should be sewed to the opening in the abdominal parietes and drainage practiced. Ten cases have been reported in which, after recovery from one extra-uterine pregnancy, a like pregnancy occurred upon the other side.

The question very naturally presents itself whether or not, in such cases, the removal of the appendages of both sides is indicated. Salpingitis is bilateral in nearly one-half of the cases, a significant fact in this connection.

Grand and Page Aves.

SOME COMMON ERRORS IN DIAGNOSING DISEASES OF THE SKIN.

Read before the Chicago Medical Society, February 2, 1891.

BY JOSEPH ZEISLER, M.D.,

PROFESSOR OF SKIN AND VENEREAL DISEASES IN THE CHICAGO MEDICAL COLLEGE, WOMEN'S MEDICAL COLLEGE, POST-GRADUATE MEDICAL SCHOOL, DERMATOLOGIST TO COOK COUNTY HOSPITAL, MEMBER OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, ETC., ETC.

There is surely no other class of diseases in which the chief symptoms are more tangible and conspicuous, more ready for close inspection and touch, more easy of examination by the eye, be it unaided or armed with loupe and microscope, than in affections of the skin. And yet perhaps in no other branch of medicine are diagnostic errors committed with equal frequency. The cause for this peculiar discrepancy lies partly in the fact that real difficulties are indeed but too often encountered, inasmuch as diseases of essentially different etiology and nature may assume similar pictures. Under such circumstances only large experience and often only a continued observation of the course of the disease will help in arriving at a correct understanding of the case. In a large number of instances, however, the symptoms are so clear and unmistakable that a misinterpretation of the same, by the majority of general practitioners, appears in an entirely different light; and without wishing to do anyone particu-

lar injustice, I may state it as my experience that many physicians, who in every other direction are splendidly equipped, look upon dermatology as a *terra incognita*, and are usually free in admitting their inability of recognizing even common forms of cutaneous disorders. This may well be excused, if we consider the entire lack of facilities, at least in our city, for the study of this important branch of medicine, and more especially the curious fact that, with the many and well-appointed hospitals in our city, there is not one single ward set aside for the treatment and methodical study of skin and venereal diseases. To show how different the opportunities in other cities are, I may mention that Vienna, with no more inhabitants than Chicago, has in the General Hospital three distinct services for cutaneous and syphilitic affections, with an aggregate of about 300 beds, besides largely attended out door departments, and that four other military and civil hospitals have each a special dermatological service, with several wards, a chief and his assistants. This subject has been dwelt upon with great emphasis by Dr. P. A. Morrow, in an address recently delivered before the American Dermatological Association.

Returning, after this deviation, to my theme, let me say first, that a frequent source of error in diagnosing skin diseases is too great a reliance upon the statements of most patients. Time and again I have learned to appreciate the golden rule of my teacher, Kaposi, never to ask any questions of the patient, but to examine his skin objectively and uninfluenced, and, so to say, to read on his skin all the anamnestic data. Duration of the trouble, presence or absence of itching, previous treatment and other valuable points will thus be often easily learned without the aid of the patient, which will greatly contribute to make him feel that his case is well understood. How easily patients may intentionally or involuntarily mislead the physician I experienced in a very striking manner only a few days ago. A young man came to see me for what he believed to be quinsy sore throat, of which he had suffered for the past two weeks. Looking into his mouth and throat, I immediately informed the patient that he had syphilis and asked him how long ago he had had a chancre. He vigorously denied any such accident and thought it impossible that he could have been infected. I demonstrated to him the presence of numerous mucous patches on his tongue and tonsils, the corners of his mouth, and even the depressed cicatrix on the left border of the tongue, in all probability the seat of the primary lesion, but all this did not seem to him convincing enough. I then made him undress and discovered on his chest and back and the upper arms, a classical roseola, and found all the superficial lymphatic glands distinctly enlarged. This at least settled the diagnosis,

although it did not clear up the mode of infection. However, we cannot be expected to play the part of detective always.

This case of an unconscious infection by the syphilitic poison is by no means a unique one, and I could cite from my own observations a number of similar occurrences. We can learn another lesson from it, namely, to examine, whenever practical, the whole integument, and not only the place which is offered for inspection. I have still under treatment a young druggist, who some time ago was treated by one of his medical friends for what appeared to be a very rebellious acne of the face. When he first consulted me I noticed, besides the eruption on his face, a well developed iritis of the left eye. Suspecting the specific nature and causal connection of both affections, I examined his body, which I found literally covered with a large papular syphilide. The young man, who evidently had not paid much attention to his extensive eruption, was perfectly alarmed to learn the nature of his trouble and, protesting his innocence, assured me that for the past year he had not indulged in sexual intercourse, as he expected to get married to a young lady. A thorough search revealed the cicatrix of the former initial lesion near the tip of the tongue, and I learned that this place had for some time been the seat of a stubborn sore. The young lady in turn proved also perfectly innocent, for an examination showed her to be a virgin intacta, adorned, however, by some condylomata lata and mucous patches in the mouth, for which she had to thank her own father, who in an intoxicated condition had attempted to abuse her.

This acquisition of syphilis as a non-venereal disease, when no history of infection can be gained, is too often overlooked. I shall never forget the case of a busy fellow practitioner in this city, who for some time had noticed an eruption on his body and the palms of his hands, which he showed to several professional friends, who in the absence of any anamnestic data, never suspected syphilis; while one of them considered the case as eczema and prescribed diachylon ointment, the next pronounced the eruption as psoriasis and recommended chrysarobin, until the persistence of the symptoms and the complication by iritis at last put him on his guard.

While we thus see how grave errors may sometimes be committed by overlooking the syphilitic nature of cutaneous manifestations, the opposite mistake of pronouncing as specific an eruption of entirely different nature is probably made just as frequently. Once a prominent lawyer visited me with his wife, and desired my opinion about a breaking out on the lady's body, which, by the family physician, had been declared as syphilitic. I found a large number of pea-sized pale red papules, covered with glistening, silverish white scales, which could easily be removed, when a

minute bleeding point would be noticed; very little itching, no glandular infiltration, no alopecia, no sore throat, in short a case of psoriasis, which by its somewhat acute development, deviated from the ordinary type. But even chronic, typical cases of psoriasis, with large, characteristic scaly patches are often taken as signs of syphilis, treated by mercury and the iodides, and sent to the Hot Springs.

Last year I was called to one of the hospitals to see a young girl with extensive ulcerations and hæmorrhagic bullæ of the skin, which the house physician had treated for some time with antispasmodic remedies. I called the attention of the young Æsculap to the bleeding of the gums and nostrils, to the irregular shape, the soft edges, the hæmorrhagic base of the ulcers, and still further referred him to the hospital record, which showed that the patient had previously been treated there for a similar attack, which then was diagnosed by me as purpura hæmorrhagica, or Werlhof's disease. The child was then, partly on account of the improper treatment, in a very miserable condition, and died soon afterwards.

Acne varioliformis, that peculiar pustular affection, which has been described under various designations as acne frontalis, a. necrotica, a. atrophica (Bulkley), molluscum sebaceum (Bazin), is also occasionally regarded as a specific trouble, perhaps because cicatrization terminates the process. This disease is somewhat rare, but the peculiar localization, mostly on the forehead and anterior part of the scalp, occasionally on the nose and in the bearded face, less often on the back, the formation of thick crusts after the pustules have desiccated, the resulting depressed scar, the recurrence of the eruption in irregular intervals will help to strengthen the diagnosis.

As just indicated, a frequent source of error in recognizing skin diseases is indeed a lack of acquaintance with their peculiar localization, which is sometimes the only important factor in determining the diagnosis. Scabies *f. i.* is always found on certain well defined places of predilection and leaves the face, with rare exceptions, free. And yet, incredible as it may sound, I recently had a patient, who for five months had been treated for that trouble under differing diagnosis, as urticaria, eczema, and even lichen, although the penis and buttocks, and interdigital spaces were almost labeled with the characteristic burrows.

Prurigo, also, can only be recognized by examining the whole integument, when the extensor surfaces will be found principally involved, but the cubital, inguinal and popliteal spaces perfectly smooth. The existence of this disease in the United States was for a long time denied by dermatologists. But at the meeting of the American Dermatological Association in September, 1889, I was enabled to report a series of twelve

cases of prurigo, showing that this disease is by no means very rare here, and R. W. Taylor and James C. White have since confirmed my views, that prurigo is often overlooked and taken for eczema, urticaria, lichen, etc.

Another disease with a rather typical distribution of its lesions and which is frequently confounded with psoriasis, is eczema seborrhoicum, a very common type of eczema, as described in a classical manner by Unna. It occurs principally on the scalp, usually extending over the hair border towards the forehead and neck, on the eyebrows, external auditory channel, around the corners of the nose, on the sternal and interscapular surfaces and occasionally affects the axillary, suprapubic and genito-crural regions. The scales differ from those in psoriasis in that they are more fatty, scanty and never imbricated. I have no doubt that in many instances of claimed cures of psoriasis the real nature of the trouble has been that of a seborrhoical eczema, which by the gyrate outlines of some of the patches and its other features will sometimes simulate a light case of psoriasis.

The idea that most skin diseases are caused by systemic derangements, not to say by impurities of the blood, seems still to be quite prevalent, even among modern physicians, and thus sometimes near lying local causes will be overlooked, whose removal would easily accomplish a cure. An interesting illustration of this fact was seen by me in a very respectable young lady from California, who spent some time with relatives in Chicago, and soon after her arrival began to notice an urticarial rash on her body. The family doctor very promptly diagnosed hives and prescribed cathartics and alteratives, but new crops of wheals continued to appear. After being troubled some four weeks she came to consult me, and I modestly inquired about the young lady having noticed in her bed some six-legged companions. This was blushing confirmed, after which the treatment was suggested very easily. In another case a young man who had recently arrived here from New York, noticed an extensive eruption on the body, which had unsuccessfully been treated under the supposition, that it was an acute papular eczema. Diligently examining his body, which was covered with a luxuriant growth of hair, I succeeded to pick up with my tweezers from the base of a hair on the lower limb what appeared to be a little black point, but soon moved along slowly, as pediculi pubis will do.

During the late fall I see every year a number of cases of that well-defined disease, pruritus hiemalis (winter itch), which was first described by Dubring. This trouble does not seem to be universally appreciated and is frequently confounded with eczema. This word eczema is, by the way, of all dermatological terms, perhaps the

most abused, and there is hardly a skin affection to which I have not, on and off, found that name being given. All forms of pruritus, sycosis, lichen, prurigo and many parasitical dermatoses are occasionally baptized with the always ready name, eczema.

The term lupus, too, is often used in a very loose manner. First there is rarely a distinction made between lupus vulgaris, that one form of local tuberculosis of the skin and lupus erythematosus, which has nothing to do with the other and ought better to be called according to Hebra sen, *seborrhoea congestiva*. Then, the natural history of lupus vulgaris is often ignored. Thus I saw a short time ago that diagnosis made in a man near the fortieth year, who had a pea-sized follicular infiltration on his nose, while it is the rule for lupus never to appear after puberty. In another case a young man, over 30 years old, had an indurated and superficially ulcerated sore on his lower lip of the size of a hazel-nut. He came to me pretty well scared, for during six weeks of previous treatment two prominent physicians had pronounced it as epithelioma, while another took it for lupus. My first question of this patient, after examining the trouble was, "When have you had a chance," to which the prompt reply was given, "Ten years ago." The presence of a large scar on the chin, the absence of any cartilaginous induration on the borders of the ulcer and the considerable pain further pointed to the diagnosis of an ulcerating gumma, which was sufficiently proven to be correct by the result of treatment, which in the course of ten days caused the ulcer to heal up.

I could easily mention, from my own experience, any number of further cases, illustrating various diagnostical errors, but this would go far beyond the scope of this merely suggestive essay. We all know that mistakes will sometimes be unavoidable, not only in dermatology, but in all other departments of medicine; as long, however, as the patient gets well, all is well. To show, on the other hand, how treatment based upon a false diagnosis may be followed by almost disastrous consequences, let me give you, in conclusion, a few notes about a case, which impressed itself especially strongly upon my mind. A young widow from Boston came to Chicago, upon the solicitation of her sister, to place herself under the care of a physician who stands at the front of the homoeopathic fraternity. She suffered from extensive ulcerations in her face, particularly the nose, cheeks and lips. The doctor and his assistant, after reading up the case, decided upon the diagnosis, lupus, and finding in their reference works recommended as one of the methods of treatment, thorough scraping and excision, proceeded to follow this line of action. During a year the patient submitted to twelve different surgical operations under chloroform narcosis, but

new ulcerations appeared, and the continued suffering almost made her a physical wreck. When finally her remarkable confidence and power of endurance had given out, she consulted Dr. I. N. Danforth, of this city, who kindly referred her to me. I found on her face about half a dozen smaller and larger ulcers, which showed the very characteristic horse-shoe form. The greater part of the upper lip was missing, having been excised, which made the closing of the mouth almost impossible, and the whole ala nasi of the right side had also been sacrificed at one of those "surgical" procedures. Numerous disfiguring scars, moreover, gave the face a very pitiable aspect. The fact could easily be ascertained that the lady had, some years ago, been infected by her husband, which was followed by various eruptions on the body, and also by iritis. How, with such an anamnesis and with the unmistakable, objective signs, syphilis could be overlooked, and in entire defiance of all that is known about lupus, this diagnosis made, is beyond my comprehension. The lady made a splendid recovery as far as the ulcers then present were concerned, which healed in two weeks and never again appeared in a year; but whether a plastic operation, which she now contemplates, will be able to restore the shape of the nose and the mouth, when no flexible skin is available in the adjoining parts, I doubt very much. I have no further comment to make upon this case, except that I succeeded in preventing the lady from beginning a suit for malpractice.

Let me finally assure you that the foregoing paper is presented with no ill spirit, but with the sincere wish to awake a little more interest in the somewhat neglected study of dermatology.

MEDICO-LEGAL RELATIONS OF LAPAROTOMIES.

Read before the Chicago Medico-Legal Society, Dec. 9 1890.

BY J. H. ETHERIDGE, M.D.,

PROFESSOR OF GYNÆCOLOGY RUSH MEDICAL COLLEGE,
CHICAGO, ETC.

Abdominal Surgery is comparatively new, there is nothing settled concerning the method of performing abdominal surgery, that is, *absolutely and definitely* as compared with what may be said to be settled about the treatment of fractures and dislocations. Whenever a case of medico-legal interest finds its way into the courts concerning the treatment of fracture or dislocation, there is very little difference of opinion in the minds of surgeons concerning the treatment of these cases—and they constitute nine-tenths of malpractice suits—for the reason that the treatment of fractures and dislocations is nearly as old as the human family. Abdominal surgery cannot boast of this ancient lineage, but is so recent and new,

and so many innovations are coming in every day that it seems to me one might, after looking over all the would-be settled points concerning the technique of the operation, conclude that there is nothing very definitely settled. And when the President of the Medico-Legal Society, in the seductive way he has, asks a man to handle this subject in ten minutes, before an audience of this kind, I think he has thrust a herculean task upon that man. I cannot thoroughly go over the wide ground covered by this subject in ten minutes, but I will touch briefly upon the most important points.

First, it seems to me we are attackable in many ways concerning the subject of positive knowledge in diagnosis. There is nothing that is more easy to be deceived in than the diagnosis in abdominal troubles. One can operate a hundred times in succession upon the various cases that come along in abdominal surgery, and make a correct diagnosis in perhaps sixty per cent, and in the others he may not, but when a man has operated ten, fifteen—twenty times, and has not made a correct diagnosis, he begins to feel like the surgeon who said, he who makes a diagnosis after he opens the abdomen is the man who is most cautious and correct. So I think if a doctor should be brought up before the courts to answer for a faulty diagnosis—for the doctor, legally, is responsible for his diagnosis—and is made responsible on that account, that he is possessed of a very large loophole of escape, in that so many doctors are unable to make a diagnosis before operating.

So many things are involved in abdominal surgery that have to be gone over clinically, that I cannot pause longer than to make the barest mention of these points:

First is the condition of the hands and sponges; the hands of the operator, the hands of the nurse, of the internes, and everybody implicated in the operation. It is a settled fact that complete cleanliness is the only thing permitted, any doubt as to this makes the doctor reprehensible. The most perfect means of cleansing the hands and sponges should be required of the physician.

A point was made in a recent case brought up in the East, concerning the length of time of an operation. It was claimed that the doctor was too long, and the astounding evidence was given by one laparotomist, that resection of the intestine ought not to occupy more than twenty minutes. That evidence was very material with the jury, since the physician had been some three and a half hours getting through with the operation. I think it is safe to say that no man can do that operation successfully and safely under two hours, and a man who goes upon the witness stand and gives such evidence as that quoted above is exceedingly dangerous, almost as dangerous as the man who testified that a case of

puerperal fever was owing to the uncleanness of the attending physician.

Next, as to the time of operating, whether before or after supervention of reaction. In all ordinary cases of gunshot injuries and the like about the limbs, surgeons, generally speaking, desire to await reaction before operating, but in cases of abdominal wounds, where intestines are perforated and fixed organs injured, we know that collapse almost always follows at once, and to await for reaction here would seem to me to be waiting for peritonitis to invade the premises and make short shrift of the patient. I think any one giving testimony and saying we ought to wait for reaction in such cases, is a dangerous person.

We all know that it is only a few years since gunshot wounds of the abdomen were first operated upon, but dogs have been shot, under anaesthesia, and the intestinal preparations closed up and the dogs have recovered and lived good long lives afterwards. In this investigation the intestines were distended by hydrogen gas for the purpose of locating the holes in the intestines that could not be located by ordinary digital examination. To-day there are some men in the country who believe that we are as bound to operate upon a man who is shot in the abdomen as we are to operate in almost any plain case in ordinary surgery. Statistics are hard things to combat: The old-fashioned treatment was to put the patient at rest, giving opium, and letting him run along in that way until the intestinal wounds healed and he escaped the possibility of fatal peritonitis; if he got well—well; if he didn't—ill; that was about all. Statistics in the State of New York, for the last ten years, compiled by skillful surgeons, show eighty-four cases of intestinal perforation by gunshot wound operated upon with a mortality of eighty-three per cent. In the preceding ten years the number of cases treated, not by operation, resulted in a mortality of only thirty-five per cent. Therefore I think the man who goes on the witness stand and says this patient with an intestinal gunshot wound should have been operated upon by the surgeon in attendance, that he should not have waited to take the old course, is very dangerous.

Now a few words concerning the incision: As a rule the incision should be as short as possible, still there are cases where the incision should be made from the pubes to the ensiform cartilage. So when a man says there is any cast iron rule in regard to the operation he doesn't know what he is talking about, and is giving misleading testimony.

Another point is concerning the pedicle, whether it be ovarian cyst or uterine fibroid. In years gone by, but not so very remote, the pedicle used to be treated with a clamp outside of the abdomen. Twenty years ago that was classical

treatment; to-day it is not. It seems to be pretty well settled in the matter of ovarian tumors that the treatment of the pedicle should be by ligature, and accordingly we will find that all cases treated by ligature will be good surgery, and the man who attempts to treat by the clamp outside would not be judged a good surgeon by the medical profession, and on the witness stand would be handled pretty badly; there is but one opinion in regard to the treatment of the ordinary ovarian pedicle in laparotomy. But there is a variation of opinion concerning the ligatures; some use Japanese silk, some Chinese silk; some plain and some braided silk. Some operators are so strenuous that they will operate only with one kind of silk, while others will only operate with catgut. I saw a gentleman in the East a short time ago, who believes that all the ovarian pedicles should be treated by catgut ligatures and nothing else, for the reason that suppuration may follow the use of silk whereas catgut is absorbed. That man going on the witness stand with this kink in his mind would testify very strongly against any one who used silk ligatures.

In regard to the treatment of the pedicle of uterine tumors, in cases of myomectomy there are two ways, one is to treat the stump in the intra-peritoneal way, and the other is the extra-peritoneal way. One making a covering of the peritoneum over the stump, stitching it tightly and dropping it back; the other is to bring it forward, anchoring it to the abdomen and letting it slough off. These two methods are very satisfactory, but they both have their defects. We are in a stage of transition concerning all these things.

Concerning ligatures: Not only in the abdomen, but for the treatment of the wound silk is used a very great deal, and so is catgut externally; the majority of the profession I think use nothing but silk, and they use the silk with one sweep through the mural tissues on both sides of the incision in that way including in the loop the skin and all tissues to the abdominal cavity. Another way to close the abdomen is to make three banks of stitches, first sewing the peritoneum down, then running the same ligature back again taking the connective tissue and the muscles through up to the upper angle of the wound, and then, with silk, bringing the skin together in three banks of stitches. I saw a gentleman who had done this operation a hundred times and never had had a hernia, and he believes that is the classical way of doing it; if that man should go on the witness stand and give evidence he might hurt those of us very much, whose method, varying from his, chances to be followed by a ventral hernia.

The toilet of the peritoneum is another point we will consider. In abdominal surgery absolute cleanliness is required, any uncleanness is reprehensible; I think there is but one opinion

on that point. Next, in regard to drainage, shall we drain or not? I believe there are cases appropriate for draining, and cases that do not call for it, but we will find that a drainage advocate will claim that all cases should be drained. But the man who is best posted on this question will on general principles usually have as little foreign substances in the abdomen as possible, and for this reason: The pressure of the organs against the drainage tube permits the formation of a fistula, and in that way we have intestinal fistulas opening into the abdomen followed by peritonitis. So you see there is something to be said against the drainage tube. I think in some cases a good method of drainage is through the vagina.

In regard to the after-treatment a great deal can be said. I can scarcely stop to go into the details, but on the first day after a laparotomy the fear of hæmorrhage is entertained, and on the second day the well-marked symptoms of peritonitis may come on, and if the physician is ignorant of this he may not employ the usual means of treatment. On the third day we are likely to get sepsis, and the man who does not know about this fails to recognize the condition, and in that way the patient may die, and this may lead to a mal-practice suit.

All that can be said about these cases is that very little comparatively is well settled in regard to them.

DR. C. T. PARKES: It is hardly necessary for me to occupy your time on a subject which has been handled so perfectly by Dr. Etheridge. He has opened so many questions for discussion that it would be impossible to go over them all if we talked a month. I agree with him entirely in the rather positive assertion he makes that doctors are dangerous men, and they are more dangerous to themselves than to most other people. Especially is a doctor a dangerous man when he gets to be a very positive man, when he has had so much experience as to get into a rut; has had so many successful cases that he knows he is going to have a good result—and perhaps does generally get good results whatever the case. And that brings to us the thought that the method of doing things is of immense advantage. It does not make any difference whose method it is, the thing for the individual to do is to make it his method, and if he knows all about it—all about its peculiarities—that method is going to succeed. Medical men who get into the habit of being dependent upon themselves as to their methods will, I am sure, get better results by that means than by any other, but when they do that, they should always feel that it is owing to the fact that they have practiced in this way that they have become successful, and should believe that their friends and associates with other plans are doing as well as themselves.

I am interested a little bit in the subject of gun-shot wounds of the abdomen. I do not believe in statistics; you can prove anything by statistics, even a fact. I am quite sure that Dr. Etheridge in his quotation of statistics has taken them from the monograph of friends of mine in New York, Drs. Stimpson and Manley. Apparently they have collected all the bad cases, and, just so as to not make it too bad, they have put in a few good cases. People would not believe them if they said all the cases were fatal. That is all right. Doctors are apt to make their side of the question the most reasonable side if they can; that is all right too. There is no question but that the doctor is responsible always when he takes human life in his hands, but there should be a little liberality shown him when he takes a case of this kind, in which the life of the individual is absolutely gone, as in the vast majority of cases of gun-shot wounds of the abdomen; certainly if it is a fatal wound, he should not be blamed if occasionally he happens to lose a case of gun-shot wound of the abdomen.

The profession is apt to be elated about every thing a little new, and go wild over it, and the same is true with reference to operations for gun-shot wounds of the abdomen. When laparotomy for this injury was first advocated by myself, everybody began to operate upon individuals who had received gun-shot wounds without remembering that he who advised this method of opening the abdomen to treat these injuries had asserted positively that in his belief the majority of gun-shot wounds of the abdomen were fatal. The fatal injuries were not the ones we were after, but cases like the ones we often met with in hospital experience, in which the patient dies, and upon a post-mortem examination it was found that there was only a small wound, or two or three holes in the intestines which caused death, and they were separated from security only by the thickness of the abdominal walls. No man can tell what is done in the peritoneal cavity when a bullet has penetrated it until it has been opened; and while we must ask our legal friends to be a little liberal with us in these cases, I certainly agree with the author of the paper, that the item of abdominal surgery is entitled to more support from the general profession than perhaps that in connection with any other part of the body. It is the *terra incognita* of surgical practice. All general surgeons know how impossible it is for us frequently to tell the character of a simple tumor beneath the skin, and how are we going what is the character of a mass in a person's abdomen that fills it to such distension that we can find no signs of the existence of the ordinary organs in it? And how is a man to tell of those conditions which produce death many times, and yet are so simple in their specific development that they cannot be discovered without

opening the abdominal cavity? A doctor always takes a risk, and that is part of the nobility of the profession.

DR. W. E. CLARKE: At this late hour the only thing that I wish to refer to in the matter of abdominal surgery is the size of the incision. In my opinion, more injury can be done through a small one, in consequence of the shock produced by the traction and the abscesses that might result from the bruising of the parts, than would follow if the opening were sufficiently large to enable the surgeon to operate readily and with less violence.

DR. ETHERIDGE, in closing the discussion said: I have nothing additional to say beyond mentioning a characteristic case that recently came up in the courts. One man shot another and was taken and held until the result to his victim could be ascertained. The wounded man was taken to the hospital and had the holes in his abdomen sewed up and promptly died. The case came to trial and the defence was that the man came to his death at the hands of the surgeons. Thus we see that matters may assume a most grave aspect in abdominal surgery, and which at once put medical men upon their metal to defend themselves. I mention this circumstance to show the indirect possible bearing of legal responsibility in laparotomy.

A REMARKABLE CASE.

BY W. J. GALBRAITH, M.D.,

PROFESSOR CLINICAL SURGERY, OMAHA MEDICAL COLLEGE, VICE-PRESIDENT NATIONAL ASSOCIATION RAILWAY SURGEONS, VISITING SURGEON ST. JOSEPH'S HOSPITAL, AND CONSULTING SURGEON IMMANUEL HOSPITAL, OMAHA, NEB.

Incredible as it may seem, I trust the readers of THE JOURNAL will not consider me a fit subject for an insane asylum in reporting what I sincerely believe to be a fact. I most cordially invite any member of the profession to examine this unique pathological freak with me and trust you will avail yourself of the invitation. I fully appreciate the amount of criticism I will receive in reporting this case, and I realize that you will take the same version of the case that I did before I examined her. Notwithstanding I had good authority regarding her malady, I could not for an instant entertain the statements in any other light than those applied to a case of pure and adulterated deception; but since my examination and two months constant care I have changed my views, and feel that I am fully prepared to substantiate my statement by submitting the patient to any examination or test you may choose to make, and, moreover, I trust that many of you will feel sufficiently interested in this case to make a personal examination.

Mrs. M., aged 26, married five years, mother of one child two years old, medium height, light

complexion and of rather a nervous temperament, has attended one course of lectures in the Woman's Medical College at Chicago in the fall of 1889. On or about the first of December, 1889, she was taken sick with peritonitis and was removed to the Woman's and Children's Hospital, where she remained several weeks.

Her statement as regards her temperature at that time corresponds with one received from some of the attending physicians in Chicago.

I will give only a brief history of her case before coming under my charge. After her recovery from the attack of peritonitis while in Chicago, she returned to her home in Kearney, Neb. On or about the 12th of April, 1890, she was again taken down with a severe attack of general peritonitis. Her family physician, Dr. Duckworth, was called, and after making a careful examination satisfied himself that there was an abdominal or tubal pregnancy. A tumor the size of a fetal head could be mapped out over the region of the left tubes and ovary. The treatment following his first visit consisted of hot fomentations applied over the abdomen and the hypodermic injection of morphia. The following morning the Doctor was again called to see the patient who complained of pains similar to those of labor. After a vaginal examination had been made, the Doctor was somewhat surprised to find a foreign body engaged in the cervical canal near the external os. He procured a pair of long and narrow-jawed forceps and removed the body, which proved to be a scapula of a four months old fetus. The pains increased in severity after its delivery. A half a grain of morphia had been given hypodermically when several more bones were delivered in the same manner. The patient became somewhat exhausted and complained of being very feverish; after an examination of the radial pulse the Doctor assured her she had no fever as her pulse was only 62, and in order to satisfy her attempted to take her temperature. The thermometer was placed under her tongue and left there about two minutes when, upon its removal, the mercury was found to be at the top of the thermometer, which registered 112° F. Believing he had not properly shaken the mercury down, he took particular pains in doing so, and again placed the thermometer under her tongue, holding the end with one hand; in a short time he removed it, and to his surprise found it registered the same as before. Again shaking it down he placed it under the tongue and watched the mercury rise to the top almost instantly.

This was too much for the Doctor to stand, and as he expressed himself, "I believe I or the thermometer is crazy." He immediately dispatched a messenger for his partner, Dr. M. A. Hoover, to come at once and bring two or three Hick's thermometers along with him. After the pecu-

liar circumstances were explained to Dr. Hoover, by his partner, they immediately proceeded to try the new thermometers,—placing one in the axilla and one under the tongue. This resulted in a repetition of Dr. Duckworth's experience. Repeatedly the temperature was taken and with the same results.

The doctors wired Chas. Truax & Co., of Chicago, to forward them a fever thermometer that would register 125° F.; after some delay the new thermometer arrived and they commenced to keep an hourly record of her temperature. On the first trial the thermometer was found to register 3° below normal; the same evening it rose to 107° F. The peritoneal inflammation had by this time almost subsided, but the removal of bones continued the same. On the following day, after a chill, her temperature was taken, and to their horror they found the mercury had risen to the top of the thermometer, which registered 125° F., in less than one minute. Satisfying themselves that they must have a thermometer that would register higher, they again wired Chas. Truax & Co., of Chicago, to have a thermometer made that would register 150° F. On the arrival of the new thermometer, or within a few days, her temperature was found to register 145° F.

I was invited to see the case by letter, but made no reply to the same; the case continued on its peculiar career for several days, when Dr. Hoover made a visit to Omaha to consult me in regard to same. I assure you I felt sorry for him, as I supposed he had "slipped a cog" and his mental equilibrium was somewhat impaired. I advised him to return home and explained to him that he certainly had been deceived by a shrewd and hysterical woman; also advising him to say nothing to any one else. In a measure he accepted my advice and returned home, but continued writing me about the wonderful case and insisting that I should see her.

On November 6, I was telegraphed to come at once to see this case and, in order to satisfy the doctors, I determined to go, but believing that I was going on a "wild goose chase."

I equipped myself with a chemical thermometer, borrowed from Mr. Hodges, Chief Chemist of the Union Pacific Railway Co., which I had standardized, and obtained a certificate of its correctness, then inviting one of my colleagues, Dr. J. H. Peabody, of Omaha, to accompany me, proceeded to see this wonderful case.

On our arrival the temperature was found to be two and two-fifths degrees below normal; this, of course, somewhat surprised us, but in less than two hours we were more surprised to find the thermometer had reached 117° F., and at midnight, following a chill, the mercury registered in the axilla 145° F., and at the same time registering 125° F. under the tongue. In less than thirty

minutes the temperature in the same localities had fallen to three-fifths of a degree below normal, followed by sweating and a slight delirium. You can imagine that I was somewhat puzzled, and immediately apologized to the doctors. I could not believe my own eyes, and I assure you that Dr. Peabody was in the same condition. I thought that some form of heat must have been used or that she, in some manner, had tipped the thermometers upside down, unknown to me, or that, possibly it might be accomplished by some muscular action with which I was not familiar.

The following morning the patient was placed in a chair, all clothing removed and a careful examination was made of her mouth and axillary region, every possible precaution taken in order to prevent any deception, and holding the end of the thermometer so that it could not be tipped in any way, we again proceeded to take her temperature; but, gentlemen, the result was the same, the thermometer under the axilla registering 137° F. while that under tongue registered 131° F.

Another peculiar condition is that when her temperature reaches 140° F. or more her pulse is slow, 60 or 70 a minute; when her temperature is normal, or below normal, her pulse runs from 100 to 120.

The axilla and mouth are the two points on her body that register the highest. I have seen the axillary temperature 131° F., while under the flexure of the knee her temperature was below normal. Again, I have seen the temperature under the tongue register 6° F. below normal.

The case has now been under my charge for nearly three months. The highest I have ever seen her temperature was 151° F., while the nurse's record in the hospital shows it to have reached 171° F.

She has been delivered of over 1,000 pieces of bone; very few, however, are perfect, the most of them being deformed. Her general health seems to be quite good, considering her long and tedious sickness, and when she is free from peritoneal inflammation, is able to be up and about the house. At this writing, February 2, she is confined to her bed with one of her attacks of peritonitis.

There is no special time for her temperature to rise; it is usually preceded by a chill.

I have no theory further than I believe it to be some chemical change or combustion that takes place in the lymphatics, as its elimination is very speedy.

I deem it unnecessary to fill a dozen pages with a record of her temperature, as it is almost constantly changing.

DR. HENRY BACON, of Jacksonville, Fla., has been appointed Surgeon-General of that State.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

KOCH'S TREATMENT OF TUBERCULOSIS: GENERAL RESULTS.—DR. J. AMANN, of Davos, says (*Centralbl. f. Bakteriologie u. Parasitenk.*, No. 1, Band ix, January, 1891), that since November 17, there have been in Davos 400 cases of phthisis treated by Koch's method. Of 288 patients whose sputum he examined, 198 have been so treated. He examined the sputum of these latter sometimes once a day, sometimes once every two, three, or six days. He comes to the conclusion that the treatment has a most marked effect on the tuberculous tissues of the lung, and gives the following points of evidence in favor of this statement: The quantity of expectoration after the inoculation reaction is, as a rule, increased, in one case from 30 cubic centimetres to 140 cubic centimetres per diem. The number of tubercle bacilli in the sputum is also increased, in some cases the bacilli becoming very numerous where before it had been almost impossible to find them. In about 70 per cent. (134 out of 198), this increase was observed. There was only slight diminution in a very small number of cases. He also considers that the bacilli are considerably altered in form, the rods are broken down into micrococci, and abnormal forms are pretty frequently met with; the tubercle bacilli under these conditions lose, to a certain extent, their power of retaining the staining fluid in the presence of acids. The quantity of elastic tissue found in the sputum was considerably increased in about 40 per cent. of the inoculated cases. All these changes he attributes to the action of the tuberculin on the young tuberculous tissue, which leads to its rapid breaking down.

At the fourth general meeting of Russian medical men at Moscow, Dr. Nikolai S. Kishkin (*Vratch*, No. 2, 1891, p. 49), read a report of seven cases of pulmonary phthisis treated after Koch's method in Professor M. P. Tcherinoff's clinic, in Moscow. The observations lasted in four cases five weeks; in two, four weeks; and in one, three weeks. In all the cases the symptoms were "quite distinct, but not very severe," the general state being more or less satisfactory. In five no fever existed, while in two there was slight pyrexia. The effects of the injections were as follows: 1. The percussion phenomena remained unaltered. 2. The auscultatory signs in two did not undergo any changes; in two the râles somewhat diminished; in one they disappeared almost completely; in one they disappeared entirely; and in one they disappeared from their former situation, to appear in another. 3. Cough, expectoration, and the number of bacilli in the sputum showed no alterations in two cases, while in the remaining five they de-

creased. 4. The weight in four cases increased, but in three fell somewhat. On the whole, of the seven cases, four slightly improved, the amelioration being both local and general, and apparently due to the injections alone. The reaction, though invariably present, varied greatly both in the time of its appearance (developing in some cases in five, and in others in twenty-four hours after the injection), and in its intensity (oscillating between a very slight elevation of the temperature with trifling general weakness, and severe prostration accompanied by a rise of temperature to 41° C.). The local reaction was different in different cases. Dr. Kishkin feels sure that such differences were dependent solely upon individual peculiarities, having no relation whatever to the dose of the lymph or the extension of the tuberculous process.

DR. FEDOR I. LOMINSKY, of Kieff (*Vratch*, No. 1, 1891, p. 23), reports ten cases of phthisis in which he tried Koch's treatment, injecting from 0.001 to 0.006 gram every other day. In one of the cases, large cavities were present in the lungs, the remainder presenting either incipient symptoms or only slight destruction of the pulmonary tissue. The lungs, respiration, pulse, and temperature, were carefully examined every three hours. The following are the principal results of the observations: 1. After 0.001 g. doses, the reaction was, as a rule (nine cases), either absent altogether, or limited to a trifling rise of temperature (which, after all, might have occurred quite independently of the lymph). A considerable rise was observed only in the patients with large excavations. 2. In incipient cases no reaction could be noticed even after 0.002 g. or 0.003 g. doses (in one even after 0.006 g.). In more advanced cases, however, these doses were followed by a slow febrile rise. The latter began from four to twelve hours after the injection, and reached its maximum in from six to fourteen hours, keeping at the level for three hours, after which it gradually fell to normal. In all but one case, on the following day the temperature either remained normal or rose but slightly. In the severe case, however, a secondary elevation occurred, which was still more considerable than the primary one. 3. In some of the febrile patients the injections modified the type of the fever. 4. The reaction, when present, was accompanied by oppression about the chest, increased dyspnoea and cough, and sometimes hæmoptysis, the symptoms being in some so intense that the patients declined further treatment. Simultaneously, the expectoration became more abundant, and the sputa thinner, the number of bacilli sometimes decreasing. In one patient albuminuria also supervened. Dr. Lominsky describes a case of faucial, laryngeal, and pulmonary tuberculosis, in which the following "interesting reaction" was observed. Be-

fore the treatment the faucial changes were limited to considerable congestion of the pillars, with two white patches on the left one. Four injections were given in the course of a week, the dose being on the first occasion 0.001 g., and on the subsequent three 0.002 g. Shortly after the first injection the congestion increased and the tissues became infiltrated, while there gradually appeared numberless greyish nodules which rapidly coalesced, broke down, and formed ulcers, until the whole fauces and sides of the pharynx were transformed into a single extensive ulcerated surface, covered with a yellowish grey coat. At the same time, the faucial and laryngeal pain became aggravated to such a degree that the patient "almost ceased to take food," while his subjective state grew worse. Though no rise of the temperature occurred, the patient lost 3 pounds during the treatment.—*British Medical Journal*.

MIXTURE FOR VENEREAL WARTS.—M. CIRO URRIOLA (*La Semaine Médicale*) recommends a mixture of salicylic acid two parts and acetic acid thirty parts in the treatment of venereal vegetations. The mixture is applied with a fine camels-hair pencil once or twice daily. Usually but two or three treatments are required to cause the greater portion of the vegetations to disappear. The writer claims that the application causes but slight and transitory pain, and that it is preferable to all other modes of treatment.

ZYZIGIUM JAMBOLANUM.—This drug, after a latent period of some years, seems destined to again be put upon trial, notwithstanding its inefficiency, as was shown some years ago. ROSENBLATT in *Vratch* (*Nouveaux Remèdes*, Feb. 8, 1891), reports a case of diabetes in which there was marked amelioration of the symptoms, and a diminution of the amount of sugar in the urine. The drug was administered in the form of powder, three to fifteen grams in twenty-four hours, and the fluid extract three to twenty-two grams daily.

Medicine.

PRACTICAL COMMUNICATIONS REGARDING THE TUBERCLE BACILLUS.—DR. BLIESENER (*Deut. Med. Zeit.*) recommends the following as a good method of staining the bacilli: Prepare a solution containing, fuchsin 1 part, absolute alcohol 10 parts, carbolic acid 5 parts, distilled water 95 parts. The sputum to be examined is spread thinly upon a cover-glass, passed rapidly through the flame of a spirit lamp and then laid upon a small piece of tin with the prepared side up. A few drops of the above solution are placed upon the glass and the tin placed over a spirit lamp until bubbles are given off. Remove the flame and allow the glass to cool, but not to dry, if necessary add a drop of the solution. The cover should

then be washed and floated upon the surface of the following solution contained in a watch glass: Methyl blue 1.5 parts, distilled water 100 parts, sulphuric acid 25 parts. Allow it to remain upon this solution for about one minute, then wash and mount. With this method the tubercle bacilli are stained a bright red upon a light blue ground.

The *Münchener Med. Wochenschr.*, No. 1, 1891, gives the following account of Biedert's method of finding the tubercle bacillus in suspected fluids: One drachm of the fluid is mixed with an equal part of water and 7 or 8 drops liq. natr. caust. (Ger. phar.). The mixture is then boiled, four drachms of water added and again boiled until the fluid is of equal consistence. If the fluid is not perfectly thinned by this procedure, more water can be added. The liquid should then be placed in a conical glass and set aside for two or three days, when the bacilli will collect in the lower portion of the glass, which is examined in the usual way. By this method it is often possible to detect the bacilli when the ordinary examination gives a negative result.

It is apparent that a negative answer to the question, "Is the tubercle bacillus present in a given specimen?" is much more difficult than a positive one. If they are looked for and found, that settles the matter, but if they are not found, have we simply overlooked them? The method of Biedert, as given above, unquestionably adds to the certainty with which we can find the bacilli, and thus is an additional precision in diagnosis. The present active therapy of tuberculosis lends additional interest to these observations.

DR. BERNHARD MEYER (*Centralblatt für klin. Med.* Feb. 7, 1891) has contributed an excellent study of the methods of examining various secretions and excretions for the presence of the tubercle bacillus. He especially recommends Biedert's method in examining the sputum. In his hands it has often shown the presence of the bacilli when the repeated examinations with the ordinary methods failed to show them. If the bacilli are *not found* with this method we cannot absolutely affirm that they are not present, as was shown in a case of Prof. Fraenkel's, in which the symptoms, cough, expectoration, fever and emaciation, pointed to a phthisical condition, while repeated examinations of the sputum, extending over a period of six months, failed to reveal the bacilli, and yet the patient died with the typical symptoms of florid phthisis. The writer claims that while the method of Biedert is not absolute, yet where it is employed in investigating the sputum, and no bacilli are found, we may affirm with reasonable certainty that there is no tubercular process in the lungs. He thinks that inoculation is the only method of absolutely determining the presence or absence of the bacillus.

In eleven cases of pleuritis the exudate was examined for the bacilli, and in one case of empyema the bacilli were found in great numbers. In no case of either primary or secondary serous pleuritis was the bacillus found.

Two peritoneal exudates were examined, one with negative and the other with positive results. The former was a serous exudate from a case of pulmonary tuberculosis, with abdominal symptoms. The second was a purulent exudate.

The writer has determined the presence of the tubercle bacillus in urine that was perfectly clear and free from albumen. In examining this excretion Biedert's method, or one devised by the author, may be employed. The latter consists in mixing the urine with thymol and so arranging a small filter that the urine shall fall drop by drop upon the centre. The surface of this small area is then examined in the usual manner.

The presence of the bacillus in fæces is even easier to determine than in sputum, therefore the writer has not had occasion to use the method of Biedert. Out of eight cases examined that came to autopsy six were found to have a tubercular process in the digestive tract. The two other cases were those of advanced pulmonary tuberculosis, and the presence of the bacilli is accounted for under the theory that some of the bronchial secretion had been swallowed.

A case is described in which secretion from the middle ear was examined and the bacilli found. Under the influence of Koch's remedy the bacilli increased, and then diminished, finally disappearing with the secretion, and the closing of the opening in the drum. The concurrent pulmonary tuberculosis of this patient was not in any way affected by the injections.

TUBERCULAR AFFECTIONS OF THE SKIN TREATED BY KOCH'S LYMPH.—*La Semaine Médicale* of February 14 contains a table of thirty-eight cases treated in the Paris hospitals and by various surgeons, as follows: E. Vidal 2, Vidal and Besnier 5, E. Besnier 9, Fournier 2, Hallopeau 14, Tenneson 5, Quinquaud 1.

Of course, the number of the injections varied, as well as the dose. In twenty cases there was a violent reaction with high fever and great prostration; in fifteen cases the reaction was moderate, in two variable, that is, differing from the usual type, and in one, weak.

Local reaction in the affected part was described as very intense, erysipelatoid in character in eight cases, and in one other case as leading to a vast phlegm requiring surgical interference. In nine cases the reaction is spoken of as lively, in sixteen as moderate, in two as slight, and one in which it was absent.

The results in these thirty-eight cases were: Much improved, 1; improved, 12; slight amelioration, 11; negative in fourteen.

TREATMENT OF LEPROSY WITH KOCH'S LYMPH.—DR. GOLDSCHMIDT (*Berliner Klin. Wochenschr.*, No. 2, 1891) has treated five cases of leprosy, four of the tubercular form, and one of anæsthetic-paralytic type. At the close of his article he advances the following conclusions:

1. Doses of less than one mg. have little or no effect.
2. One mg. in the first three cases produced a general reaction after twenty-four hours; in two cases there was local reaction.
3. Larger doses, under 0.01, produced a high temperature (excepting case 5), and in another (case 1) a very remarkable local reaction, that is still under observation.
4. The remedy gives a reaction with lepra as well as tuberculosis.
5. He cannot exclude the possible presence of a tubercular foyer in the first four cases.
6. The immediate contact of the remedy with leprous skin seems to cause more irritation than with healthy integument.
7. The leprous mucous membrane showed no reaction.
8. Nervous lepra showed general and slight local reaction.

Surgery.

REMOVAL OF THE LEFT LOBE OF THE LIVER.—The number of operations upon the liver in which a portion of the organ has been removed are not so great but that special interest attaches to any case.

LUCKE of Strasburg, (*Centralblatt für Chirurgie* Feb. 7, 1891) reports the case of a woman who presented a small, firm tumor in the epigastrium. There was pain, vomiting and considerable disturbance of the general health. A careful examination of the stomach and its contents showed an apparently healthy organ. A diagnosis of cancer of the left lobe of the liver was made and an operation determined upon. On opening the abdomen the tumor presented and was readily brought through the wound and transfixed. It was then encircled with an elastic ligature, the wound closed as far as possible and a dressing applied. Three times the dressing was changed and each time the ligature was tightened, finally the tumor was separated and the constricted surface of attachment was thoroughly canterized. The abdominal wound healed slowly. There has been no return of the disease.

RESECTION OF THE SPLEEN.—BARDENHEUER (*Deutsche med. Wochenschrift*) describes an exceedingly interesting case. The patient, 47 years, had complained of some indistinct uterine and stomach disturbance. Upon examination a small tumor could be felt in the true pelvis, it was not readily movable and the writer concluded that he had a small ovarian cyst with adhesions. The incision was made with possible reference to an

intra-ligamentous cyst, but as a diagnosis was not possible by the extra-peritoneal method, that membrane was opened, when much to the operator's surprise he found that the tumor was a small cyst of the spleen. The organ was grasped by an assistant and the tumor cut away. But little hæmorrhage followed which was easily controlled by the actual cautery. The organ was then replaced, and the wound closed. Seven weeks later the patient was discharged. An examination of the cyst showed that it was of parasitic origin.

Obstetrics and Diseases of Women.

INFLAMMATION OF THE CLITORIS.—PHILIPPEAU (*Gazette Gynécologie*, February 1, 1891) reports the case of a woman who consulted him about one week after menstruation for an itching of the upper part of the vulva. On examination the vulva was found to be normal in color; no discharge from the urethra or vagina. Uterus healthy. The clitoris was enlarged, reddened and excoriated, the vulvo-vaginal glands were normal. The writer could not refer the condition to any exciting cause. The patient had had two other attacks within six years, from which fact he refers the peculiar inflammation to a rheumatic origin. Under soothing lotions and the application of cocaine the inflammation rapidly subsided. The case is certainly deserving of notice as primary inflammation of the clitoris is a very rare occurrence.

VOMITING OF PREGNANCY.—The *Journal de Médecine* recommends the following for vomiting of pregnancy: Tr. iodine and chloroform, equal parts, five drops to be taken morning and evening, in a little water, with the repast.

Hygiene.

HYGIENE IN FRANCE.—Recently the French Chamber of Deputies have considered a general law governing workers in factories, child labor, etc. M. DE MUN proposed an amendment providing that women should not be allowed to work the first four weeks after confinement. The proposition created a lively discussion, the general tenor of which was to the effect that the private life of citizens should not be interfered with to the extent proposed, and that the fixing of an arbitrary limit of four weeks was not wise, as many would be able to be at work long before that time, while others would be incapacitated far beyond the limit. One member proposed that compensation by the State be given to the extent of one franc per day. The amendment was finally tabled by a decisive vote.—*Le Bulletin Médicale*.

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THE GRADUATING AGE IN MEDICINE.

In the Seventh Report on Medical Education just issued by the Illinois State Board of Health is a paragraph that reads as follows:

Under the schedule of two-year courses and three years' study the earliest age at which a student can be graduated is 21 years. The addition of one year each to the time of study and the college term would seem to justify the limitation of the minimum age of graduation to 22 years. This is a matter that the boards of examiners and the colleges would do well to take under consideration.

Following this paragraph is a table showing the ages of graduation of 5,719 graduates—5,497 of American colleges, 82 of Canadian, 32 of English, 98 of German and 10 of Swiss colleges. Of the 5,497 American graduates 5,214 were males and 283 females. The number from the Swiss colleges is so small that it may be eliminated. The following shows the numbers up to 40 years of age, the males and females being given separately for the United States:

Age.	United States.	Canada.	England.	Germany.
19	9	0	0	0
20	79	2	0	0
21	233	5	12	4
22	431	11	8	6
23	506	10	9	4
24	507	14	12	5
25	496	15	10	2
26	409	15	6	2
27	378	11	7	2
28	322	18	4	2
29	255	21	2	2
30	218	15	1	2
31	178	16	2	0
32	175	4	0	1
33	161	9	4	0
34	128	18	0	0
35	128	12	4	0
36	94	12	0	0
37	81	9	1	1
38	67	4	0	0
39	44	7	0	0
40	47	10	0	0

From these figures it is seen that the greatest number for any age was 551 for 24 years, and that the two next highest numbers are 544 for 23 and 535 for 25 years. After these came 462 for 22 and 442 for 26 years. The number of graduates at 21 years is lower than at any subsequent age until 30 years. Omitting the numbers of graduates at 19 and 20 years, the total from 21 to 30 inclusive is 4,073, out of a grand total of 5,719. Of the total graduates from 21 to 30, then, the percentages at different ages are: 21 years, 6.43; 22 years, 11.34; 23 years, 13.35; 24 years, 13.52; 25 years, 13.11; 26 years, 10.85; 27 years, 9.94; 28 years, 8.54; 29 years, 6.92; 30 years, 5.91. It will probably never occur again in this country that so large a proportion of medical men will graduate after the age of 30.

The question is, Is it best to raise the minimum age for graduation to 22 years? The figures above are given merely as a part of the data upon which to discuss the question. All that they show is that of the known ages of graduation of 5,719 graduates, fewer graduated at the present minimum age than at any later age up to 29, inclusive. The reason for this may help answer the question at issue. In order to graduate at 21 years after two courses one must enter college at 19, which, we believe, is below the mean age of the seniors in the better class of academic institutions. This leaves no time for the one year of medical study (or reading) before entering a medical college. On the two-course and three years' study schedule, then, the average student cannot be graduated until after he is 22 years old, even if he enter upon the study of medicine as soon as he leaves the academic college. There are some that do not graduate, however, but begin the study of medicine before the time at which they would complete their academic course. On the other hand, a considerable number of academic graduates do not begin the study of medicine immediately after leaving college—often for financial reasons. It is not improbable that young men having no more than a common or high school education enter upon the study of medicine a little later than do college graduates. The foregoing remarks apply to this country only. In other countries young men go into business—including the practicing of professions—later than in this country. They may, on an average, begin the study of medicine about the same age,

but the term of study is much longer. Yet it is probable, almost certain, that the foreign student begins the study of medicine later than the American, and in addition to his maturer years and mind he has a better education. As a rule medicine has been the life-aim of the foreign medical student since his youth. In America the study of medicine is often the result of a sudden determination, a reverse of fortune, or is decided upon in early manhood.

It is now agreed, however, that the term of medical study in this country shall be four years, including three courses of lectures, and a few colleges have adopted four courses of lectures. In order to comply with these requirements the student must begin to study medicine at 17 in order to graduate at 21. Very rare is the young man of sufficiently mature mind to begin the study of medicine at 17 years; so rare, indeed, that he may be left out of consideration. The study of medicine, properly carried on, demands a well-developed reasoning faculty rather than the exercise of the faculty of memory. Up to the age of 18 or 19 years, often until later, the whole system of education, as at present applied, is chiefly restricted to certain dogmatic facts, rules, laws and axioms. From early youth the pupil has learned grammatical rules only to find that they have exceptions, which are sometimes so numerous that the rule itself seems an exception. So thoroughly is he saturated with this sort of knowledge that he pictures a law of science—nature—as something that has exceptions; and he is quite ready to believe that the law of gravity has exceptions. The methods of inductive and deductive reasoning are unknown to him, and whatever logical faculty he may have is always silenced by the voice of what he considers "an authority."

Such a young man is not yet even in the lowlands of medicine, but in the vast swamp of unreason, from which he can be rescued by nothing but a scientific course, and preferably one preparatory to the study of medicine—such as is now offered by some of the larger universities. It is, of course, better that such a course be substituted for a part of the regular academic college course, since in the latter much time is spent on subjects the study of which is of no assistance to the student of medicine or to the physician. The scientific course preparatory to medicine should occur

at least three years. It is doubtful, however, if it should be begun before the age of 15. Nothing is to be gained by forcing a mind. As between a hot-house mind and one of more natural growth, the latter will have the better development at the age of 30 years.

Taking all things into consideration it seems that the minimum age for graduation should be placed nearer the normal, at 22 years. The public and the profession would be the gainers by this, and the public more than the profession.

A MASTER'S INFLUENCE.

Such it is which moves our feelings and prompts the springs of eulogy to flow; and such it is which turns the eyes of a medical world towards a memory indelibly blended with the history of medicine and allied sciences. February 14th, the Hunterian Oration was given in the theatre of the Royal College of Surgeons, London, by JONATHAN HUTCHINSON; and quite coincidentally there was delivered at the London Institution the oration of the Hunterian Society for 1891, by FLETCHER BEACH, and entitled: "Psychological Medicine in John Hunter's Time and the Progress it has Since Made."

Jonathan Hutchinson compared the mind of Hunter with that of Aristotle of ages gone, and erected a tower of mental strength into which no third mind could enter. The tireless industry, the keen perception, the courage of conviction, the wonderful self-reliance and originality, the mental hardihood—all leading to, and being part of, that insatiable thirst for knowledge which so intensely characterized the man, left their markings upon the times after him, and we have to-day magnificent examples of the effects of this teaching.

It is the influence of master minds which stimulates the thinking world to-day—as, indeed, it always has done—and notwithstanding that those minds may have long since lapsed to dust again, yet the song of their glory and mighty achievements still echoes to our ears, and awakens that bright glow of a generous pride, and the warm impulse of emulation. Like in that spectral review of Napoleon, the medical learner of now may stand where the sifted utterances of the past may reach him, and be directed thereby to goals which Patient Toil and Genius command. It is the noble examples of yesterday and to-day

whose influence thrill throughout the great medical body, carrying it onward in its march of progress, and in its earnest seekings to alleviate the afflictions, and prolong the lives of brother mortals.

Well may we listen a moment to the echoes of a Hunter's teaching, the observations of a Jenner, or the analysis of a Cavendish; and yet all blended into the great stream of enlightenment which flows to us, and which we, in turn, are striving to enlarge.

LOSS OF LIFE BY FIRE-ARMS.

The Lancet offers editorially some considerations as to the much-needed legislation against an easily preventable cause of death, the promiscuous handling of loaded pistols. Even in this country where many men, and some boys, habitually "carry a gun" the legislation needed to circumscribe the habit and thereby save life, is extremely defective. The suggestions of *The Lancet* are in the main twofold, first, the registration of sales, including a prohibition to sell to minors; second, an exceedingly heavy tax to be assessed upon everyone who indulges in the luxury of habitually carrying the means of ready homicide. The American practice of giving a man a permit to carry a pistol, a right which in some of our cities is seemingly vested by law in the department of police, is a practice of very doubtful humanity, expediency or equity.

A COMPARISON BETWEEN SALICIN AND THE SALICYLATE OF SODIUM.

DR. ALEXANDER HAIG has recently read a paper before the Medical and Chirurgical Society of London on the comparative merits of these two drugs in the treatment of acute articular rheumatism. He bases his comparison on the relative power of the two drugs to excrete, or to stimulate the excretion of, uric acid. He has found that the salicylate of sodium has about thirteen times the excretory potency of the other drug, and he thinks he has seen that their power to interfere with the course of the disease has been approximately identical with their liberation of uric acid. His contention is that all those plans of treatment of acute rheumatism that have proved beneficial have been so in an exact proportion to their uric acid seceding power. According to DR. HAIG'S

reasoning, acute rheumatism is caused by the presence of uric acid, primarily, in the blood and that being driven thence by a high acidity, it is precipitated in the joints, and that this precipitation of the acid, together with the fact of the non-destruction of the acid furnish us with the most manageable theory as to the inflammatory processes and pyrexia of the malady. The rise of temperature adds to the acidity and the precipitation of acid in the joints is more complete than in gout. There may be other causes besides pyrexia that will increase the acidity, such as suppressed perspiration and chilling, tonsillitis and other local inflammations, and the ingestion of acids and acid-forming foods, all of which are predisposing causes for rheumatic attacks. He also holds that the high arterial tension at the end of an attack is an indication of an excessive proportion of uric acid in the blood, and that, therefore, any cause that increases the acidity at that time tends to bring on a reprecipitation of the acid and a relapse.

SHOULD PHYSICIANS STUDY LATIN?

In the day when medicine was held to be one of the learned professions, and Latin an essential part of a gentleman's education, this would have seemed a superfluous question. Times have changed since then. The physician of the present time knows many things of which his predecessor of a century or two ago was ignorant, that are of more importance to his patients than a dead language, but even when liberally educated it is apt to be the case that he is less of what is called a scholarly man than those of corresponding standing in times when the requirements of strictly professional education were less exacting. That the gain has been, on the whole greater than the loss, there can be no doubt, and the question becomes more and more a serious one, which, among the ever increasing multitude of things that it is desirable for a physician to know, are essential, and which more or less superfluous.

No one who reads the medical periodicals, and understands Latin, can fail to be aware that a knowledge of it is not essential either to a marked degree of competence or to high professional standing. Whether a classical education would have been a help, in all cases, to those who have

suceeded without it, will probably never be known. The question of the comparative disciplinary value of such studies and others of more immediate practical application is one into which we do not propose, at present, to enter, but there is at least one drawback connected with ignorance of the language which is indisputable, and somewhat serious.

The technical nomenclature of medicine is a relic of the time when every educated man was expected to be familiar with Latin, not only as a written but a spoken language, and would incur more discredit by using it incorrectly than by mistakes in his own language. It is impossible for any one who is not acquainted with Latin to use such terms grammatically, and, although correct grammar may be classed rather among the luxuries than the necessities of life, it is something which, like clean linen, is rather expected of men in certain positions. When medical men in countries in which a classical education is an essential prerequisite to the study of medicine find that professors in our medical schools, and men otherwise of high standing in the profession, are unable to use the terms of their profession correctly, they are apt to draw unfavorable, and often unjust inferences as to their competency in other respects.

It is unnecessary to multiply instances; every one who understands Latin has met with plenty of them, and those who do not would be none the wiser. It may be enough to say, by way of example, that to speak of a woman's right labia majora is a mistake of the same kind as to speak of her right feet.

What is the remedy? Shall the doctors learn Latin, or shall they be provided with English equivalents for those terms to which they are now lacking, and compelled to use them? Either course would have its difficulties. With respect to the latter, a glance at the experience of another country may be instructive. In Germany, although physicians in general are acquainted with Latin, the patriotic feeling of some of them impels them to find or invent German words for those of foreign origin. In a large proportion of cases the substituted terms are literal translations of the Latin words. The essential absurdity of the present nomenclature is thus held up to view in all its naked deformity. "Egg-stem" for ovary is not so bad, and "thin-gut" and "thick-

gut" for the two divisions of the intestines are descriptive, if not elegant, but it is difficult to see the merit of "see-hills" for optic thalami, "knee-humps" for corpora geniculata, and "brain-leg-hood" and "brain-leg-foot" for the two divisions of the cerebral peduncles. If our medical terminology is to be reformed, it is to be hoped that it will fall into the hands of some one who will "reform it altogether."

EDITORIAL NOTES.

A DISTINGUISHING MARK.—A British doctor has lately contended in favor of a particular style of hat for physician's use. His argument is not made for advertising purposes; but to facilitate a proper recognition between men of the same class—as largely obtains in England between clergymen, and between barristers, from distinctive features of their costume. Other points are also advanced, such as a saving of time to the physician, and the prompt assistance which may be afforded in accidents by being quickly recognized among a mass of people.

We remember that these, and other arguments, were put forth some time ago by a physician in this country, who favored the wearing of an olive-colored button by all members of the medical profession.

It is feared, however, that plans of this character will beg adoption, for reasons which all will appreciate.

Apropos to this may be mentioned the uniform allowed the French doctor on State occasions. By a clause in a law of 1803, it was enacted that a plain Doctor of Medicine could wear at public ceremonies, or when giving evidence before a court of justice, a costume as follows: A black gown of bolting cloth (*etamine*), the back and front of which are of crimson silk bordered with ermine; a black coat *à la Française*; cambric bands, and a cap of crimson silk with a border of gold lace.

ASEPTIC URINE FROM SALOL.—M. Lacroix reports to the Paris Société de Pharmacie, that his experiments have demonstrated that the pyogenic bacillus cannot develop in the urine of those taking salol internally.

STATE CARE OF INEBRIATES.—The Legislature of the State of North Carolina has set aside a portion of the Western North Carolina Hospital

for the care and treatment of inebriates. This is looked upon as only a beginning of what will ultimately be a duly-appointed and properly-equipped asylum.

A COMRADE OF TYROTOXICON.—Prof. Victor C. Vaughan announces that a new toxic element has been discovered in cheese, differing from tyrotoxin. As yet it has not been isolated, but has been found to be intensely poisonous.

HONORS TO HELMHOLTZ.—The 70th birthday of Professor von Helmholtz occurs on Aug. 30, 1891, and it is proposed to commemorate the event by presenting him with a marble bust, and the striking of a special medal to be bestowed upon physicists of eminence. It is desired to form an international committee for carrying out the scheme.

THE REPUTED CAUSE OF INFLUENZA.—Dr. Tezzier, of Lyons, France, claims that influenza is produced by a microbe, which he styles the strepto bacillus, whose habitat is putrid mud. That Russia is its home is, in his opinion, due to the fact that bad drainage, filthy streets and neglected barnyards are the rule, a condition particularly aggravated by swollen rivers and generally wide plains.

CREMATION IN LIVERPOOL.—The following resolution was passed by an overwhelming majority at a late meeting of the Medical Institution of Liverpool:

Resolved, That this society recognizes the advantages of cremation as a means of disposal of the dead, and considers the establishment of a crematorium in Liverpool, under suitable regulations, as free from objection.

It is stated that there are now about forty-two crematoria in existence throughout the world; and that the first crematorium of modern times was erected at Milan, Italy, in 1880. The practice of cremation will, therefore, be seen to have had a large and rapid growth.

MEDICAL ITEMS.

TESTIMONIAL TO VIRCHOW.—The friends and admirers of Dr. Rudolf Virchow in Great Britain have, according to *The Lancet*, February 7, undertaken the formation of a testimonial fund to enable them to unite with others of other nations in the celebration of the seventieth birthday of "the great exponent of cellular pathology." This event will take place October 13, 1891. Sir

James Paget was unanimously agreed upon, by the committee organizing the Fund, to be invited to take the chairmanship of the English branch of the movement. The editor of *The Lancet* adds: "The movement set on foot in Germany will doubtless spread to every country in the world, and we are glad to find that Great Britain will be represented." The nature of the proposed testimonial will include the presentation of a large gold portrait medal to Virchow himself, and bronze replicas of the same to members of his family and to some scientific institutions.

THE HUNTER MCGUIRE PRIZE ESSAY.—The announcement is made that the subject of Dr. Hunter McGuire's Prize Essay for 1891 will be "Pyelo-Nephritis." The prize offered is \$100.00 and is to be awarded during the session of the Medical Society of Virginia at Lynchburg, Va. The prize is only open to members of the Medical Societies of the States of West Virginia and North Carolina.

CONGRESS OF GERMAN SURGEONS.—The 20th Congress of the German Surgical Society is to be held in Berlin from April 1st to 4th, under the presidency of Professor Thiersch. It is proposed to give the first day of the meeting to Koch's treatment of tuberculosis, and the introductory address on this topic will be delivered by Professor von Bergmann. Patients and specimens illustrating the effects of the new mode of treatment will be shown in the University Clinic on the morning of Thursday, April 2nd.

MORTALITY EFFECTS OF THE LATE COLD WEATHER IN PARIS.—Vital returns of Paris plainly indicate the effects of the cold weather of the season just passed. Frost is reported to have set in on November 26th, and lasted without intermission until January 21st. Deaths from respiratory diseases were much increased, though the effect was not noticeable until some three weeks or more after the setting in of the cold spell; and the general thaw was followed by an almost immediate lowering of the death-rate.

THE COLONIZATION OF EPILEPTICS.—A bill has been introduced before the Legislature of the State of New York providing for the creation of a Board of Commissioners which shall have charge of the housing, and grouping under care, of epileptics.

TOPICS OF THE WEEK.

THE ETIOLOGY OF TETANUS.

In the last number of the *Annales de l'Institut Pasteur* there appears (from the Bacteriological Laboratory of Val-de-Grâce) a most interesting paper on tetanus by Drs. Vaillard and Vincent, which appears to throw very considerable light on the subject of tetanus, and to clear up a number of points and observations that have hitherto been enshrouded in obscurity. After describing the organism, and identifying it with that already made familiar through the papers of recent writers, the authors give it as their firm opinion that in cases of artificial inoculation of pure cultures it is always the poison introduced along with the bacillus, and not the organism itself, that acts upon the animal. This indeed seems to be probable, as they are able to prove that almost inconceivably minute doses of this poison, which they compare with snake poison, are quite sufficient to produce all the symptoms of most acute tetanus; in fact, it was almost impossible, from some of the cultures that they obtained, to administer a dose that was not lethal.

An exceedingly interesting feature brought out in the course of their work is that in no case was the poison developed as soon as the organism began to grow; in fact, gelatine cultures of the tetanus bacillus were never capable of producing toxic symptoms until liquefaction of the gelatine had commenced, when spores were demonstrated to have been formed, and when the peculiar disagreeable odor so characteristic of tetanus cultures had become perceptible. They associate both the odor and the peptonizing power with the formation of the poison in the cultures. That it was due merely to the presence of the spores that the material was poisonous they demonstrated by heating their cultures to a temperature of 62° C. for a short time (a temperature which is quite incapable of interfering with the vitality of the spores), when it was found that cultures so heated and introduced by inoculation into a rabbit or a guinea-pig failed to produce any tetanus, thus proving that although the spores are not killed the poison has been destroyed by the heat. The spores were proved to be living by making fresh cultures from them in artificial media; after a time they grew luxuriantly, and if left to grow eight or ten days produced another crop of the poison. By simply washing away the poison from the spores with distilled water they also obtained similar results, for, although the spores could still develop and form the specific poison in artificial media, they were, when inoculated, incapable of giving rise to any symptoms of tetanus. From the reaction to heat of a substance they were able to separate, and from its resemblance to the diastases in other respects, they conclude that they have obtained from tetanus cultures the true tetanus poison, a poison, however, that cannot be formed by the tetanus bacillus in healthy tissues. The microorganisms are here so rapidly attacked by the leucocytes that they are rendered *hors de combat* before they have time to form their poison.

It has for long been well known that the tetanus

bacillus could not develop in the tissues except, apparently, in the presence of other organisms, and the suggestion is offered that these other organisms act in one of two ways; they either paralyze the activity of the leucocytes, or they draw off, as it were, their attention and activity from the tetanus bacillus, thus allowing it sufficient time to develop its characteristic products. It is interesting to note that Drs. Vaillard and Vincent consider that in many respects the tetanus bacillus is extremely like the diphtheria bacillus, the method of action and in the organism being essentially the same in the two cases, the above factors in all probability playing a part in diphtheria much as in the case of tetanus; and it is evident that in studying the one poison much light may be thrown on the other. Behring and Kitasato appreciated this fact, and combined their forces to work out the question of immunity in these two diseases. It is obvious, however, from a consideration of some of the points that are indicated in this paper, that there are many sources of fallacy that will have to be eliminated before the ultimate explanation of the condition of immunity in protected animals can be given. The facts that this poison is active in such extraordinarily minute quantities, and that the microorganisms are able to grow with such difficulty in the human tissues, allow us to hope that extremely minute changes in the blood may be quite sufficient to secure the alteration or breaking-down of the virulent poison, even when it has become diffused throughout the system. So long as the organism is localized to the wound, there is, of course, more chance of coping successfully with the disease, although here, as in other diseases, there always appears to be a possibility of the poison exerting such a paralyzing influence on the cells that usually take up foreign substances, that secondary septic conditions may be liable to occur even when the action of the tetanic poison can be antagonized so far as its primary effects on the cells are concerned. One question appears to be set at rest, and that is, as regards tetanus and diphtheria, the ptomaines have had their day, whatever may become of the products of other organisms. It may be accepted that here, at any rate, we have some subtle poison which, although it has not yet been actually separated, has become so far isolated that it may be taken as proved that it is not an alkaloid or basic poison. A most remarkable feature is that, in peptonizing gelatine with the filtrate from a meat-broth culture of the tetanus bacillus, the poisonous properties are lost to a certain degree in direct proportion to the amount of gelatine that is peptonized; this, taken in conjunction with the fact that the properties are not developed until the gelatine begins to liquefy, has led Drs. Vaillard and Vincent to suppose that the same agent that peptonizes the gelatine is the active agent in bringing about the development of the toxic symptoms of tetanus.—*The Lancet*.

THE INVESTIGATION OF HYPNOTISM.

The action taken by the British Medical Association at the last annual meeting with regard to hypnotism, which resulted in the appointment of a Committee of Inquiry,

will be strengthened by the report of the Standing Committee on Hypnotism appointed by the Medico-Legal Society of New York, which had just been submitted. The report is not lengthy, but it is very much to the point. It states that "the number of reputable investigators increases, and that taken out of the hands of those whose aims and methods cast discredit on it, hypnotism is studied by members of the learned professions, vitally related as it is to the interests of which they are the natural custodians." Whilst we hold to the opinion that hypnotism should only be practiced by qualified medical men, we cannot deny there are medico-legal questions connected with the study of the subject which, on further investigation, may be found worthy of attention. Before, however, going so far as the Committee of the Medico-Legal Society of New York, and countenancing the study of this subject by "members of each of the learned professions," we should be satisfied that the medico-psychological aspect of hypnosis is clearly defined and understood. The moral and legal relationships of hypnosis, which the medical profession has now begun to regard as a physiological and not a pathological state, can only be studied with advantage by the learned professions after it has been thoroughly investigated and given the place to which it may be found to be entitled by those competent to undertake such a purely medical inquiry.

Briefly, the conclusions which the Standing Committee arrive at are: That hypnosis, or artificial trance sleep, is a subjective phenomenon, that it is not in itself a disease. Neurotic conditions predispose to the trance sleep, but the strongest minds have been enthralled. Hypnosis is recognized in three stages—lethargy, somnambulism, catalepsy. It has been serviceable in medical and surgical practice as a therapeutic agent, and in some cases as a safe anæsthetic. The last proposition, that "the illusory impressions created by hypnosis may be made to dominate and tyrannize the subsequent actions of the subject" is far from being established. We have not yet sufficient proof that post-hypnotic suggestion has led to actual crime, or that "illusory impressions" (hallucination?) have been either lasting or post-hypnotic. The more medical men study this interesting and possibly valuable agent as a means of combating disease, the stronger will the desire of the profession become to see it taken out of the hands of showmen. Nothing can be more degrading to the medical profession than to see these would-be doctors posing in public and filling their pockets by exhibitions of the power of hypnotism before lay audiences, and to see them supported and patronized by medical men as stated by one of our correspondents in last week's issue.—*British Medical Journal*.

FROM BERLIN.

At last Wednesday's meeting of the Berliner Medizinische Gesellschaft, the discussion on Fraenkel's address, the longest and perhaps the most important discussion on record in the annals of the society, came to an end. Professor Fraenkel, in replying, said: "I am of opinion that tuberculin exercises a direct influence on those parts of the body where tubercle bacilli exist,

and where they have caused changes to take place; and that this influence consists in a corrosive action with supervening necrosis. Thus I uphold my opinion that tuberculin is a specific for tuberculosis. If this be so, whence comes it that its therapeutic action is so much called in question? I think the answer is, because tuberculin (1) does not affect the tubercle bacilli, and (2) because it has some untoward by-effects." He carefully weighed the pros and cons of the tuberculin treatment, such as his own experience had made known to him, and said that though fully alive to the possible dangers of the injections, he had found the curative effect in many cases so marked, so much greater than he had yet observed to follow any other therapeutic method, that in his opinion the physician, after having carefully and conscientiously selected suitable cases, must calmly face the danger in the same way as the surgeon does day after day. At the close of his remarks Professor Fraenkel referred to Professor Liebreich's new remedy, with which he had obtained surprisingly successful results in cases of tuberculosis of the larynx.

The Verein für innere Medizin has opened a discussion on Koch's tuberculin. The introductory address fell to Dr. Thörner, who reported most favorable experiences with the lymph, adding that, in his experience, the dangerous by-effects had been quite exceptional.

The official regulations as to the sale of tuberculin have appeared. The chemists are to obtain their supply from Dr. Libbertz, who will continue to prepare the lymph under the supervision of Professor Koch. It will be sold in sealed bottles containing from 1 to 5 cubic centimetres, and marked with the date of preparation. The chemists are to use the same precautions as with poison, and only to sell it in the original bottles and upon the written prescription of medical men. A special book is to be kept for the entry of sales, etc., and in each case the quantity sold, the date of preparation, of purchase, and of sale, and the name of the physician prescribing it must be noted. Six months after preparation the lymph may no longer be sold. Bottles six months old should be returned to Dr. Libbertz, who will exchange them for new ones without extra charge. The price has been fixed at 6 marks (6s.) for a cubic centimetre, and 25 marks (£1 5s.) for 5 cubic centimetres.—Correspondence *British Medical Journal*.

INFECTION FROM MILK.

In the *Glasgow Medical Journal* for October appears an account of an epidemic of erysipelas and sore throat, occurring among families supplied with milk from a certain farm. The most striking symptom was an intense inflammation of the fauces, resembling erysipelas of the mucous membrane, with swelling of the glands of the neck, and in some cases suppuration. In some, true erysipelas of the skin developed. The temperatures ranged from 102° to 103° during the first few days of an attack. Convalescence was attended by extreme prostration. No bacterial examination was made, but a clear connection was traced between the milk and the epidemic.

PRACTICAL NOTES.

CONVULSIONS OF TEETHING.

- R. Chloral hydrat. gr. xv.
Potass. bromid., \mathfrak{z} j.
Syrup simplic., f \mathfrak{z} v.
Aq. destillat., f \mathfrak{z} j. \mathfrak{m} j
S. Teaspoonful every three hours.—*Kinder-Arzt*.

PRURIGO.

The following prescription is useful in the treatment of prurigo:

- R. Resorcin. gr. xxxv.
Sulphur præcipitat., \mathfrak{z} v.
Acid. carbolic.
Acid. salicylic. $\mathfrak{a}\mathfrak{a}$ gr. vij.
Chloral, gr. xx.
Vaseline, \mathfrak{z} iss. \mathfrak{m} j
Sig. Use externally.
—*La Semaine Médicale*.

OINTMENT FOR HÆMORRHOIDS.

Audhoui recommends, in *L'Union Médicale*, the following ointment for hæmorrhoids:

- R. Extract of belladonna, 15 grains.
Extract of thebaïa, 15 grains.
Antipyrine, 45 grains.
Mercury ointment, $2\frac{1}{2}$ drachms.
Simple cerate, 1 ounce.
This is to be made into an ointment and applied to the inflamed hæmorrhoids. Rectal injections of warm water are to be employed if constipation is present.—*Medical News*.

INHALATIONS FOR OZENA.

Moire recommends the following to be used as a fumigation in the treatment of fetid nasal catarrh:

- R. Camphor, $1\frac{1}{2}$ drachms.
Tincture of iodine, 3 drachms.
Iodide of potassium, 30 grains.
Tar, $3\frac{1}{2}$ drachms.
Ninety-per-cent. alcohol, 3 ounces.
Water, 6 ounces.

Place this solution on a water-bath and inhale the fumes for two or three minutes, after which the nasal chambers should be washed out with a spray of 1-to-100 of carbolized water.—*Medical News*.

CONSTIPATION IN WOMEN.

- R. Citrate of iron and ammonium, grs. 31.
Fl. ext. cascara sagrada, m 32.
Saccharin, grs. 8.
Water, \mathfrak{z} iss.
M. Sig. A half teaspoonful three times daily before meals.

—*Medical News*.

IODIDE OF IRON IN LEAD POISONING.

It is stated by M. Lavraud, in a Lille medical

journal, that he has found iodide of iron, in the form of pills, as prescribed in the French Codex, very efficacious in treating the lead poisoning which occurs amongst workmen employed in white-lead manufactories. Sometimes he gives the iodide of iron by itself, at others he combines with it phosphide of zinc. Under this treatment workmen who had already commenced to show signs of lead poisoning were enabled to continue their occupation; their general health also improved, and the amount of hæmoglobin increased.

GONORRHOEA.

Thomas R. Neilson states that the plan of internal treatment which he has pursued for so many years past, consists, first, during the earlier stages of the disease in the administration of an alkaline sedative mixture, with the purpose of alleviating the scalding caused by urination, the tendency to frequent micturition and to chordee. The standard formula in his dispensary practice has been:

- R. Potass. acetat., \mathfrak{z} ijj- \mathfrak{z} ss.
Potass. bromid., \mathfrak{z} ss.
Acid. boric., \mathfrak{z} ij \mathfrak{m} j.
Tinct. belladon., \mathfrak{m} xxx.
Liq. potass. citrat., \mathfrak{z} vijj. \mathfrak{m} j.

Sig.—A teaspoonful in water every three or four hours.

Secondly, as soon as the symptoms are in a measure relieved, the administration of either oleoresin of cubeb and balsam copaiba in capsule, or of cubeb alone in powder, in teaspoonful doses, or finally, where chordee is troublesome, a combination of two parts by weight of powdered cubeb and one part of bromide of potassium, given in the same doses, and from three to four times daily.—*Univ. Med. Magazine*.

TREATMENT OF SYPHILITIC ULCERATIONS.

Plumert gives the following applications for ulcers of syphilitic origin:

- R. Mercury salicylate, gr. xv.
Potassium carbonate, gr. xv.
Distilled water, \mathfrak{z} vj. \mathfrak{m} j.

Dissolve. Sig.—Wet compresses with this solution and apply to the ulcerations.

If an ointment is preferred, recurrence may be had to the following:

- R. Mercury salicylate, gr. xvj.
Vaseline, \mathfrak{z} j.
 \mathfrak{m} j. and make a pomade.

—*Bacteriological World*.

IRRITABLE BLADDER.

- R. Potassium citrate, \mathfrak{z} iv.
Fluid ext. triticum repens.
Tinct. of hyoscyamus, $\mathfrak{a}\mathfrak{a}$ \mathfrak{z} j.
Fluid ext. of buchu, \mathfrak{z} ss.
Water, sufficient to make \mathfrak{z} iij.

M. Sig. One teaspoonful in a wineglassful of water, three or four times daily.

—*Med. Summary*.

SOCIETY PROCEEDINGS.

Gynecological Society of Boston.

216th Regular Meeting.

The Gynecological Society of Boston met at No. 19 Boylston Place on Thursday, Nov. 13, 1890, at 4 o'clock P.M., with the President, W. SYMINGTON BROWN, M.D., in the Chair.

DR. FRANK L. BURT read a paper entitled

INTRA-UTERINE DISEASES—THEIR DIAGNOSIS
AND TREATMENT.

The reader placed the diseases to be considered under three groups, viz.:

First, the benign.

Second, the intermediate.

Third, the malignant.

The benign growths mentioned were, endometritis, erosions, areolar hyperplasia, submucous fibroids, uterine polypi, cystic degenerations and retained secundines. The intermediate were adenoma. The malignant were carcinoma and sarcoma.

Endometritis was treated at greater length because of its being a complication of the other diseases and a disease of itself. In case we find some tenderness about the uterus, likely also some enlargement, and we notice sticky mucus or a purulent discharge coming from the os, we can make the diagnosis of endometritis; provided we can prove that pus, if present, does not come from the tube. Division is made into cervical and corporeal endometritis, and it is generally believed that the cervical variety is much more common than the corporeal, although the causes are the same. Of all the cases which the reader has been called upon to operate, he has found that whatever the symptoms and whatever the kind of discharge, the whole portion of the endometrium has been more or less diseased.

For treatment he advises local applications of caustics, or the use of galvanism or thorough curetting. Local congestion should be relieved and proper constitutional treatment adopted. The method used would depend upon the complications in the case.

Polypi, or retained secundines, should be removed entire, and a local application of something like iodized phenol made to the surface. If we have uterine hæmorrhage, whether it be from the presence of fibroid or other causes, a thorough curetting is usually of great service. In many of these cases galvanism also is of decided advantage, many statements to the contrary notwithstanding.

Laparotomy should be advised in many of these cases of fibroids with severe hæmorrhage, and in some cases for severe pain, but the reader does not feel like condemning all these patients to abdominal surgery, because many of those who

have objected to surgery have been entirely relieved by local treatment; and he has also records of a large number of patients who have been urged to have the organs removed for tumor or hæmorrhage, who had been completely cured by galvanism alone.

If there was subinvolution or areolar hyperplasia, a course of chlorides was recommended for internal medication, while locally curetting and galvanism were advised. An old view that areolar hyperplasia is incurable must be revised to-day; for those cases are to be considered as perfectly curable by modern surgery.

In speaking of adenoma, a growth which may be benign for a long period, but which has a tendency to take on malignancy, the reader advised curetting with suitable applications as long as they might be considered serviceable, or as long as no malignancy showed itself. When such a change became apparent, the proper method to pursue was vaginal hysterectomy. This class of cases would, without doubt, furnish the greatest number of cures following this operation.

In the consideration of malignant diseases of the uterus the subject of diagnosis was recognized as of great importance, and it was thought that too much care cannot be given to all cases in which there is any possibility of malignant disease, because so many cases, unrecognized at first when curable, are allowed to go on without suitable operative treatment, till they were past all hope of anything more than temporary relief. Many such cases come to every surgeon.

It is perfectly evident that the disease must be discovered while it is yet confined entirely to the uterus, or else no treatment can cure. All internal medication and local application have failed in the hands of the reader. If the disease is confined to the cervix, where it originated, an amputation of the cervix will be sufficient to cure some cases, as shown by records of some years standing. If the disease is located at the fundus, no method will be of service except the entire removal by vaginal hysterectomy. This operation should not be performed in case the disease passes beyond the uterus. When we find a patient suffering from pain or hæmorrhage, and find that the disease has progressed so far that removal is impossible, we should still subject the patient to a thorough curetting for a complete removal of the sloughing tissue, after which caustic or cautery should be thoroughly applied. This treatment is often extremely satisfactory. The patient for the time recovers entirely from the foul discharges, hæmorrhage and pain. The relief at times is very great, and life, besides being made more comfortable, may be greatly prolonged.

DR. C. W. STEVENS said that he is very much interested in this subject. In regard to the manner of applying liquid medicament to the endometrium, he is accustomed to use a hard rubber

Eustachian catheter, to which a small rubber ball is attached, by means of which an injection of five to ten minims may be made. In a few cases there may be slight pain for five to ten minutes after the injection is thus made. This probably is a mild uterine colic. Dr. S. takes pains to be sure that the injected fluid flows out again, and hence he prepares a pad in the vagina to receive it. He places his best reliance, however, in curing to cure discharge of purulent or even mucus character when in excessive quantity. After he has curetted he applies the instrument devised by Dr. Outerbridge for the cure of sterility, which was originally made one and one-half inches long. It is self-retaining, and permits free drainage. When he makes an intra-uterine application of galvanism, he uses externally a large pad of spongio-piline, protected with gauze, which takes the place of the water apparatus and is especially useful when high currents are employed.

Dr. C. E. PRIOR said that he rarely sees a case of endometritis which does not yield to the application of Squibbs' crude carbolic acid, and he believes if this does not produce the desired effect, that something else is at fault, after removal of which the endometrium gets well. He once had an unfortunate experience with creolin. Dr. Church mentioned that patients taste iodoform who have had it applied locally in the uterus and vagina.

Dr. MARY E. BATES suggested that she should never think of curing endometritis without the use of hot water at a temperature of 118° to 120° F., in addition to other treatment.

Dr. PRIOR agrees with this statement, and if only one method of treatment could be adopted, he would use the hot water.

Dr. THOMAS P. JEFFERSON stated that he believed in the importance of drainage after the operation of curetting, and he thinks that something should be left in the os that will allow the debris to come out easily. He also has used the Outerbridge instrument with success, and has also had good results by the insertion of gauze, which may be left for a day or two. Care should be taken lest the os closes and shuts the gauze in. He thinks there is more reason to be afraid of the intra-uterine application of caustics, etc., than of electricity.

Dr. C. A. EASTMAN said that in cases of corporeal endometritis he finds the disease in patches, and he is accustomed to use the sharp curette, which should be used until the grating sound is heard.

Dr. HENRY O. MARCY said that this is an old subject but it is one which is always interesting. What is endometritis? A name merely. Our opinions have lately changed in regard to all inflammations. What makes the inflammation in this case? The glandular apparatus is diseased by means of foreign material, viz.: microorgan-

isms, and all of the medicines which have been recommended in the line of treatment are anti-septics of greater or less value. The vagina affords most excellent conditions for the growth of microorganisms. In these cases the circulation and hence nutrition is also at fault. The cause should first be sought before attempting a cure.

Strong applications are too often introduced into the uterus, when such are used at all it should only be with extreme care. The operation of curetting should not be thought lightly of. It should be done thoroughly if at all and with all the care of any surgical operation. Even after a thorough curetting all of the glands are not destroyed. Ordinary menstruation may be said to be nature's effort to clean house each month. The glands are removed and they grow again. Dr. Marcy protests against doing the operation of curetting with cocaine for an anesthetic since when so done it can never be sure or safe. He does not generally use anything for drainage after curetting, but if for any reason he wishes it, he prefers a small rubber tube. He does not as a rule make applications to the interior of the uterus, and prefers iodoform when he needs anything. He has never had occasion to regret the use of iodoform although the patients sometimes have the taste of the drug after it has been applied. He believes that the poisoning, when it occurs, is due to iodine and not iodoform.

St. Louis Medical Society.

Stated Meeting February 21, 1891.

THE PRESIDENT, L. BREMER, M.D., IN THE CHAIR.

[Abstracted for THE JOURNAL.]

TYPHOID BACILLUS.

Dr. A. GREEN read a quotation from Koch relative to the difficulty of determining the species of bacilli—and particularly the typhoid bacilli—inasmuch as there are as yet no distinguishing or constant marks which positively indicate the specific typhoid germ.

Dr. BREMER spoke of the method of separating and differentiating various bacilli in Koch's laboratory, and also referred to the way in which the cultivations were made.

Dr. GREEN believed that the bacillus of typhoid fever was not present during the earlier stages of the disease, not being shown in the feces under a week or ten days.

Dr. BREMER referred to the difficulty of diagnosing typhoid in its early stages, and even throughout the entire course of its manifestation. He also spoke of the difficulty of the comparative study of contagious diseases on the lower animals, inasmuch as the disease, in a characteristic form, cannot there be produced.

ENCYSTED HYDROCELE OF THE CORD.

DR. BROKAW presented a specimen which was of interest more directly from the mistake in diagnosis which it had caused. It had been taken for a hernia, had been treated as such heroically, and for a considerable time.

TUBO-OVARIAN DISEASE.

Another specimen having much interest was also presented by Dr. Brokaw. The patient, 36 years of age, had suffered greatly for a long time. Childbirth occurred seven years previously, and for the last fourteen months the patient had been bedridden. The case had been variously diagnosed, and treated accordingly. At the operation very extensive adhesions were found, and a large, far-reaching abscess, involving and surrounding the larger blood-vessels of the region. The patient was extremely emaciated, and died on the fifth day after the operation.

MYXO SARCOMA OF THE KIDNEY.

A third case was that occurring in a child 3 years and 8 months of age. This is the second youngest child operated upon for this peculiar disease. Altogether twenty-nine previous cases have been reported in young children. In this case the tumor had developed very rapidly. Operation took place in November, but the child had a metastasis involving the liver and succumbed two months ago.

INTRA-CRANIAL TUMOR.

DR. N. S. CARSON rehearsed the history of a well-marked case of cerebral tumor involving the arm-centre first, but afterwards extending. The operation of trephining was performed, and patient made a good recovery until the eighth day when death occurred, the immediate cause of which was unknown. The case progressed very favorably in every way until the sudden onset of a state of alarm in the patient, which preceded the fatal termination but a short time.

DR. ATWOOD gave a word picture of two cases occurring in asylum practice, where the autopsy revealed the presence of cerebral tumors. In neither case could the diagnosis be positively made during life, nor a correct localization offered.

DR. BREMER believed that death happened, in the case reported by Dr. Carson, from the sudden relief of the pressure which had maintained from the tumor. This result obtained, whatever the operative dexterity had been on the part of the surgeon, and therefore reflected nothing against the surgeon's skill. In this case the tumor was large, and its removal was attended with considerable hæmorrhage. Subsequent capillary hæmorrhage took place, notwithstanding the presence of the gauze, and the general evidences of favorable progress, and finally death came from an œdema of the cerebral structures.

A general discussion followed touching the influences of coarse cerebral lesions, and the effects of brain pressure.

New York Academy of Medicine.

Section on Orthopædic Surgery.

SAMUEL KETCH, M.D., CHAIRMAN.

[Abstracted for THE JOURNAL.]

CONGENITAL DOUBLE EQUINO-VARUS.

DR. CHARLES N. DIXON JONES reported a case in which ordinary, and other, methods had failed, necessitating, finally, the removal of both tarsi, with good results.

AGGRAVATED FLAT-FOOT.

DR. JONES reported a case where the inner side of the right foot rested, in its whole length, on the ground. Resection of the astragalo-scapoid articulation was made with good result.

TUBERCULAR OSTITIS OF THE HIP-JOINT.

Two cases of this disease were also offered by Dr. JONES. In the first case there was high temperature, and the operation of resection liberated several ounces of pus. The temperature at once dropped, and there was a good recovery, not requiring apparatus, and with but one inch of shortening. In the second case the child was three years old and had never walked. There was a fluctuating swelling over the joint, together with the other symptoms of tubercular coxitis. A similar operation to that on the first case was done, and the recovery was rapid and uninterrupted.

DR. V. P. GIBNEY, in discussing the cases, said that in the first case the result was probably due to poliomyelitis, the anterior and posterior tibial muscles being mostly affected; and that in the effort to bring down the heel the flatness had been produced. He thought that a still further improvement could be produced by division of the tendo Achillis.

DR. ROYAL WHITMAN considered the result obtained in the case of the flat-foot a good one, but he withheld his approval from this class of operations. He felt that as good a result could be obtained by over-correction under ether, together with subsequent attention and exercise.

DR. A. B. JUDSON remarked that the occurrence of flat-foot as a result of infantile paralysis was rather unusual.

DR. R. H. SAYRE did not agree with Dr. Judson that equino-valgus was rare after poliomyelitis when the anterior tibial muscle happened to be the chief one involved. As to other points he did not believe there was any such thing as a relapsed club-foot; such cases were simply instances of imperfect cures, in which the patients had been unable to voluntarily retain the foot in

its normal position. He considered that Dr. Jones' excision of the hip-joint a very excellent piece of work, and believed it was much better than attempting to produce ankylosis.

HYDRARTHROSIS.

THE CHAIRMAN presented a case that he had first seen in 1887. Patient fifteen years of age. No history of rheumatism or joint disease, but there is phthisis on the maternal side. Two years before the right knee became swollen, and later the ankles and the left knee. General health is good, and there is no known cause for the trouble. Examination showed a large, doughy swelling of the knee; no pain; movements of the joint only limited by the effusion, and then only in extreme flexion. No elevation of the temperature. An exploratory puncture showed a clear, syrupy fluid. Treatment was first by plaster bandages, and afterwards by elastic compression, counter-irritation, and systematic massage of the joints. The progress of the case was at first slow, but afterwards became more rapid, until now there is very decided improvement.

DR. GIBNEY remarked that the case was interesting, both on account of its comparative rarity, and the excellent result which had been obtained.

DR. A. M. PHELPS had been accustomed in these cases of effusion into the joints, to open the joint and wash it out with a 1-1200 solution of bichloride. He believed it shortened the period of treatment; was a safe practice; and gave equally good results with the more common method. In dispensary practice his cases had been discharged in three months. Tubercular joints were not necessarily purulent. He had examined many microscopically, and while frequently finding the tubercle bacilli, yet there was no suppuration.

THE CHAIRMAN in closing the discussion, said that in private practice the consent to an operation, when there was such slight disability, could not easily be obtained; and furthermore he thought the operation somewhat dangerous in itself and liable to result, in a tuberculous case, in a general infection of the system.

RHEUMATOID ARTHRITIS.

THE CHAIRMAN also presented a man, thirty-six years of age, and with good family history. Had rheumatism when ten and fourteen years of age, and a third severe attack about ten years ago, which involved only the right ankle. Two-and-a-half years ago was exposed to damp and cold for a number of hours at night, which was followed by pain in the left hip, thence to the side of the leg and knee, and across the back to the right hip. After that the joints became stiff, though with only a feeling of soreness on motion. Now there was but little motion in both hips, yet the arms and hands were quite free. Has been

examined under ether, when the movements were somewhat increased.

DR. R. H. SAYRE said that the appropriate treatment was indicated by the movements made. Slight daily movements of the joints should be undertaken while the patient was immersed in a bath having a temperature of 110-115 degrees. Massage was more successful in this way. When the joints are inflamed and tender massage may intensify the inflammation so as to cause ankylosis, but in this case there had been absence of pain for a long time.

DR. GIBNEY approved of these suggestions.

THE CHAIRMAN, in closing the discussion, said that he had seen a number of these cases, and his experience had been unfortunate. The case should be classified as rheumatoid arthritis, which disease terminates in ankylosis. There might be temporary amelioration. He believed that massage and baths at the Hot Springs the best treatment.

THE IMPORTANCE OF THOROUGH EXAMINATION IN SUSPECTED POTTS' DISEASE.

DR. R. H. SAYRE read a paper having this title. He said that although in childhood the signs of Potts' disease are usually so marked as not to be confounded with other troubles, in adults, especially in females, there are times when the diagnosis is not clear. In some cases of uterine displacement and ovarian disease, the reflex pains, the position and gait, may simulate Pott's disease so closely as to be mistaken for it by competent observers.

A number of cases were cited illustrating the similarity of symptoms, and the errors made in treating the cases as Pott's disease; and where uterine replacement by a pessary or Alexander's operation, together with faradism and general treatment, produced a cure.

In conclusion the writer said that the description of these cases showed that the mistakes in diagnosis had been made by men of large experience, and he therefore thought it worth while to call attention to the fact that reflex pains from pelvic irritation might easily lead one astray in considering cases of supposed Pott's disease.

PATHOLOGICAL DISLOCATION OF THE HIP.

DR. W. R. TOWNSEND presented a specimen of this condition which had been removed from an Italian girl. The head of the femur was deeply eroded and was dislocated on to the dorsum ilii. There was a marked erosion of the pelvic bones, but no perforation of the pelvis.

ACUTE INFANTILE ARTHRITIS.

DR. TOWNSEND also presented a specimen showing acute arthritis in an infant 11 months old.

DR. JUDSON said that the specimen illustrating pathological dislocation of the hip recalled a discussion which took place a few years ago on the

question of the possibility of this dislocation. Dr. March, of Albany, argued that Dupuytren, Astley Cooper, C. Bell, Brodie, Liston, Ferguson, Miller, Gibson, Carnochan, and a host of other authorities were wrong in considering spontaneous dislocation in hip disease as a frequent occurrence. He declared that, as purely the result of morbid action unaided by superficial violence, it seldom, or never, took place. He visited forty pathological museums in all parts of the world, and failed to find evidences of this lesion. His forcible article in the "Transactions of the American Medical Association, 1853," excited great opposition, and Dr. Hayward, of Boston, in his Surgical Reports, 1855, said it would require more specimens than would fill forty, or forty thousand museums to convince him that a certain specimen, which he described, was not the result of spontaneous dislocation.

Before this discussion, spontaneous dislocation was supposed to be a very common incident of hip disease, in spite of the doubts expressed by Baron Larrey, and the statement by Wickham, in 1833, that it is of very rare occurrence. That dislocation is very often simulated when not really present, is not generally conceded.

DR. GIBNEY showed a specimen to the Pathological Society in 1877, in which dislocation was simulated by an appearance due to the altered direction of the neck of the femur. But that it sometimes does occur, is clear enough from the fine specimen in Dr. Townsend's hands. There is another pathological dislocation of the hip that is worth considering from an orthopaedic standpoint, *i. e.*, that thought to be produced by distention of the capsule in the synovitis following continued fevers, as set forth by Dr. Keen, in the fifth Toner Lecture in 1877. He had recently examined a convalescent from typhoid fever in whom there was great impairment of motion, and a distended capsule. Ostitis was eliminated by the history of the case, and by the absence of atrophy and natal asymetry. The patient was warned against undue disturbance of the joint, and recovered without dislocation, and without any special treatment. The subject is practically important because it is generally believed that serious joint diseases not infrequently have their origin in fevers.

Dr. Gibney said that he would like to know whether Dr. Townsend thought the child might have been saved if the head of the bone had been excised. A number of years ago Dr. Yale read a paper on excision of the hip, before the Surgical Society, and among other conclusions he stated, that the best antipyretic for septicæmia was excision of the hip.

DR. TOWNSEND replied that there was marked septicæmia present at the time he had operated and drained the abscess, so that he doubted if the result would have been different had he excised

the head of the bone. He thought, however, that an earlier operation might have saved the child's life. He had recently seen in Bellevue Hospital a man suffering from aggravated septicæmia due to absorption cellulitis of the leg, who was so ill that it was feared he would die on the table during the amputation of the thigh; yet, instead of this, the amputation was followed by a very rapid improvement in his general condition.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

New York County Medical Association—A Koch Institute for Consumptives—Dr. Simon Baruch on the Koch Lymph Treatment—Dr. J. Blake White's Treatment for Tuberculosis—Sanitary Condition of the Public Schools.

At the February meeting of the New York County Medical Association the retiring President, Dr. George T. Harrison, on vacating the chair, delivered an eloquent address, in which he dwelt upon the value and the desirability of a more general study of the medical literature of the past. In his admirable inaugural address the President elect, Dr. S. B. Wylie McLeod, alluded to the great success of the Association during the past year, whether viewed from the standpoint of an increased membership and a well filled treasury, or from that of the value and amount of scientific work performed. In speaking of the future he urged the cultivation of the closest possible relations with the State and National Associations. "We are their representative," he said, "in this County of New York, and they are ours in that unity of effort and purpose which gives strength to our cause. If we should be feeders to them in membership, and they in certain cases should exercise a supervision over us, it would be a relation at once natural and calculated to secure the great ends of our respective formations. A desire for coöperation and a willingness on the part of a distinct majority to thus organize, should precede the plan, and until these are first secured, it is a dictate of wisdom to wait; for it often happens that we should not take the course which is ideally most effective, but that one which commands coöperation and assent."

At this meeting sixteen new members were received; thus bringing up the total membership of the County Association to about 600.

A "Koch Institute for Consumptives" has been opened in the lower part of the city, on the East Side, and it will doubtless serve the purpose of affording considerable free advertising for the physicians having the project in charge, and, for

the time at least, bring in handsome financial returns. It would not at all do for some of the profession here, however, to cry out against such gratuitous advertising, as quite a number of the shining lights in it received a good deal of this in the newspapers at the time of the introduction of and first experiments with the Koch lymph. Aside from any such considerations, however, the wisdom of establishing an institution for the special purpose of employing the Koch treatment would seem to be extremely problematical at the present time, when grave doubts are felt by many of the best observers as to whether the treatment may not, after all, be more injurious than beneficial. That it has not accomplished as much as was at first hoped for from it there can be no question, and the unsatisfactory results that have thus far been met with led Professor Francis Delafield lately to make the remark that we seemed to be still as much in the tentative stage of the treatment of phthisis as ever. The present feeling in Berlin in regard to the matter is shown by the letter of Dr. Ingals recently published in THE JOURNAL.

It is now some time since Fränkel, observing the fact that the tolerance of the Koch remedy disappeared if no injection were made for ten days, and that the patient then became as easily affected as by the original dose, drew the conclusion that in phthisis tolerance is established as soon as all tubercle is acted upon, and was led to explain the return of the original susceptibility by the hypothesis that the patient had again infected himself with tubercle from the necrosed tissue lying in the lung, and that the reaction again appeared from a minimum dose because the case was once more a tuberculous one. If this explanation is correct—and the autopsies made by Virchow would seem to afford some corroboration of this, or at least to indicate that in certain instances the effect of the lymph treatment is apparently to disseminate the tubercle bacilli in the system—the difficulties in the way of success with the method would seem to be very great, if not altogether insurmountable.

In this city there have, of course, occurred some deaths in the patients treated with the Koch lymph, and it would certainly have been very remarkable if, among so many cases of phthisis, this had not been the case. In commenting on these deaths Dr. Simon Baruch, who at an early date began experimenting with the new treatment at the Montefiore Home for Chronic Invalids, writes as follows: "The public may easily be deceived by reports of death from lymph, because these cases happened to die while under the lymph treatment; but the experienced physician knows but too well how fallacious such a conclusion is in a disease which furnishes so large a percentage of the world's death-rate. From an experience with over thirty cases of lymph treatment the

writer is led to the conclusion that, although the lymph has an undoubted elective affinity for tuberculous tissue, and produces decided local reactions, as Koch has stated, not one case has, after six weeks' experience, offered him the slightest evidence of a curative tendency. Nevertheless, he does not despair, because much time is required for the processes which Koch has delineated as probable in throwing off the diseased structures." On the whole, therefore, the establishment of a special "Koch Institute" at the present time would seem to be somewhat premature.

The most recent treatment for tuberculosis that has been advanced is that advocated by Dr. J. Blake White in a paper read before the Section on Practice of the New York Academy of Medicine. In addition to such general measures as are generally agreed upon by the profession, he employs hypodermically the chloride of gold and the iodide of manganese, given in a 1 per cent. solution of carbolic acid. The preparations of gold, he claims, have been too long neglected by the profession, though their value has been recognized from time to time by some of the highest authorities. Thus, Roberts Bartholow extols their efficacy in cancer, scrofula, syphilis and chronic Bright's disease, and at the same time he advances the important observation that they are singularly apt to undergo decomposition in the alimentary canal; a fact which may explain the inefficacy of the remedy when used internally, and which also offers the strongest reason for its hypodermic use. Under any circumstances, however, Dr. White believes that in phthisis the hypodermic method is the only proper one to use for medication, as the overtaxed digestive system has already more than it can attend to in disposing of the food taken into the body. He combines manganese with the gold for the reason that this drug has been found to have so excellent an effect in improving the character of the blood and increasing the tone of the general condition.

The minimum dose of the fluid employed is one drop, and this should always be given as the initial injection. The remedy appears to produce a reaction in the system very closely resembling that caused by the Koch lymph. Afterwards, it is claimed, there is increase in the appetite, followed by a marked improvement in the general nutrition, and later by an amelioration of the characteristic phthisical signs. In three illustrative cases narrated by Dr. White, which have been under treatment since December, the results, as far as they have gone, are certainly very encouraging. In one of them the body weight has increased nearly eight pounds, and in another the amount of expectoration has diminished from fourteen to two ounces in the twenty-four hours. These patients are in the wards of Charity Hospital, Blackwell's Island, and have been seen by

quite a number of other physicians. As to whether any permanent beneficial results will ensue it is, of course, entirely too soon to form any opinion. In addition to phthisis, Dr. White states that he has found the hypodermic use of these salts of gold and manganese very efficacious in the chronic glandular enlargements and sinuous abscesses of scrofula, in obstinate chronic skin affections, especially of a leprous character, in chronic Bright's disease, and in persistent anæmia and the cachexias due to syphilis and scrofula.

The sanitary condition of our public schools has of late received a good deal of attention on the part of the medical profession. To this subject was devoted the principal part of the report of the Committee on Hygiene of the Medical Society of the County of New York at the last annual meeting of the Society, and at a recent meeting of the Section on Public Health of the New York Academy of Medicine, Dr. Henry D. Chapin, who industriously collected the data on which that report was based, read an additional paper on the same subject. He said that of the thirty-eight separate primary schools and eighty-one primary departments in grammar schools he had investigated eighteen of those which were known to be most defective, and that in ten of these he had found a condition of affairs that was simply disgraceful. His description of one of the schools on Chrystie street, in the midst of a crowded tenement-house population, which may be taken as an example, was as follows:

"In it there are over one thousand children in the primary department, which is housed in three buildings occupying the lower part of the grammar school building at No. 60, an old rookery, formerly a tenement house, and a factory on Hester street that has lately been patched up for this service. The children attending this school come from the poorest families in this densely populated neighborhood, and it is evidently regarded in consonance with the fitness of things to give them the poorest and scantiest of accommodations. Although the school was visited on an exceptionally bright and sunny day, eleven of the crowded, stuffy rooms were lit by gas, which, with the poor ventilation, made the atmosphere almost unbearable. Even the main room was partially lighted by gas, the windows on the right opening into a narrow well, at the bottom of which are boys' water-closets. The classrooms in the tenement-house and factory have low ceilings, are generally poorly lighted, and are very badly ventilated. It is difficult to comprehend how teachers and scholars can remain for hours in the polluted air of these rooms, and not become ill. In the latter two buildings the stairways and passages are narrow and tortuous, and they might both prove a veritable fire-trap, especially as thin wooden partitions are used to sep-

arate many of the rooms. It would be absolutely impossible to empty these buildings speedily and safely in case of alarm. Several of the class-rooms have no desks. There is a small, dark playground in the basement. Altogether, this school contains a combination of unhygienic conditions that has probably been rarely equalled in a building devoted to such a purpose."

In speaking in general Dr. Chapin said: "The ventilation of the primary schools is dangerously defective, and the cubic air space allowed to each pupil is insufficient. In the three lower classes the prescribed allowance of space to each pupil is 70 cubic feet, and in the three higher grades, 80 feet; while in the four lower grades of the grammar classes the allowance is 90 feet, and in the four higher grades, 100 feet. The Board of Health requires that in tenement-houses the allowance shall be at least 400 cubic feet, and in some cases 600 cubic feet, to each person. 400 cubic feet are required for each lodger in the lodging-houses of this city. There is not a city in the country that requires such a small number of square feet and cubic feet per pupil as New York in its public schools. . . . The life conditions of thousands of poor children in tenement-houses are hard enough. It is the duty of the city to see to it that their bad environment is not continued in the schools. As children grow older, and growth is not so active, the system loses this susceptibility to noxious influences. In young children, however, where unhygienic conditions prevail, the constitution will surely be weakened and the effects particularly disastrous."

The Superintendent of School Buildings, who was present on this occasion, explained that the unfortunate condition of affairs referred to was due principally to the fact that the Board of Education was able to obtain from the city but a small proportion of the funds which were necessary to carry out its work properly. During the past four years, however, no less than twenty-seven new school buildings had been erected, in whose accommodations and appointments the medical profession would find nothing to criticize. In reply, Dr. Alexander, the Secretary of the Section, said that to the physicians of New York it made but little difference who was responsible for the evils existing in the schools, and that it was simply their duty to demonstrate these evils scientifically and incontrovertibly until public sentiment should demand their abolition.

It would appear, however, that New York is not the only place where school-houses are not all models of hygienic perfection. The Hudson County (N. J.) Board of Health recently declared one of the public schools of Jersey City to be in such a bad sanitary condition as to require the immediate attention of the city school authorities. A reasonable time having been allowed to pass, and nothing whatever having been done to im-

prove the premises, the Board of Health, at its last meeting, very properly ordered the school to be at once closed.

P. B. P.

NECROLOGY.

DR. STEPHENS G. COWDRY, Surgeon U. S. A., died in New York City Feb. 22, aged 52 years. He was a native of New Hampshire, and appointed from New York in 1868. He had been on sick furlough since last December, having left his post at Santa Fé at that time in order to consult with friends, medical and others, in the East, in the interests of his health. The cause of his death is assigned to heart-failure.

DR. JOHN A. MEAD, of Pearlington, Miss., died at the Hospital Hotel Dieu, New Orleans, La., on January 30, 1891. He was born in Portland, Me., July 16, 1842, educated at Harvard Medical School, Boston, and graduated June 30, 1869. He had been a sufferer from abscess of the liver, but finally succumbed to an attack of bronchial pneumonia. He was a member of the American Medical Association since 1885.

DR. FORREST W. BRAYTON.—The sad news is announced of the sudden death, in Cincinnati, of Dr. Forrest W. Brayton. In January, 1890, Dr. Brayton went to Toledo and associated himself with Dr. W. W. Jones, in the practice of medicine, and at once became a favorite with all with whom he came in contact. He was successful from the beginning, and had an extremely bright future before him. But sickness came, and some months ago he was obliged to give up his work. Since then he has been traveling, trying to regain his lost health, but without avail; death came and ended his career, so auspiciously begun.

Dr. Brayton was only 34 years of age, his home being in Carey, Ohio. He was a member of the Northwestern Ohio Medical Association, of which he was at one time Vice-President, and later Secretary. He was also a member of the Ohio State Medical Society, of the American Medical Association, of the American Microscopical Society, and of the Toledo Medical Association.

JOHN S. MESSERSMITH, Medical Director U. S. N., retired, died at Lancaster, Pa., Feb. 16, aged 81 years. He was commissioned by President Andrew Jackson in 1837, and served in Commodore Perry's first expedition to Japan, as well as during the Mexican and Civil wars. He was retired in 1872.

DR. MARIUS DUVAL, Medical Director of the U. S. Navy, with rank of Commodore, retired, died suddenly on February 21 at his home in Baltimore. He was nearly 73 years of age.

SPECIAL CORRESPONDENCE.

To the Editor:—It affords me much pleasure to inform you that our bill repealing the charter of the Medical and Surgical College of this State has been passed by the Legislature and approved by Governor Abbett. It is hardly necessary for me to say that this Board feels that it has, in the first year of its existence, done something towards the purification of the medical profession, not only in the State of New Jersey, but in its sister States.

WM. PERRY WATSON,

Sec'y State Board of Medical Examiners.
Jersey City, N. J., March 11, 1891.

Shall The Journal be Removed to Washington?

THE ACTION OF THE CHATTANOOGA MEDICAL SOCIETY.

At a regular meeting of the Chattanooga (Tenn.) Medical Society, March 6, 1891, the following resolution was passed, viz.:

WHEREAS, An effort will be made at the next meeting of the American Medical Association to move THE JOURNAL from Chicago to Washington, and

WHEREAS, We believe it to be for the best interests of the Journal to remain where it is: Therefore,

Be it Resolved, That we urge all Tennessee delegates to vote for no change to be made in the home of THE JOURNAL.

FRED. B. STOPP, M.D., Sec'y.

THE ACTION OF THE WAYNE COUNTY MEDICAL SOCIETY.

At a regular meeting of the Wayne County (Ind.) Medical Society, held on the 12th inst., Dr. L. C. Johnson moved:

That it is the sense of this Society that the office of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION ought not to be removed from Chicago to Washington at this time, and that the delegates from this Society to the next meeting of the American Medical Association are hereby instructed to vote against such removal.

After full interchange of views of members on the subject the motion was unanimously adopted.

G. H. GRANT, M.D.,

Sec'y Wayne Co. Med. Society.
Richmond, Ind., March 13, 1891.

To the Editor:—I am most unalterably opposed to the proposed change.

It is very evident that the movement for the change from Chicago to Washington has had its origin in the minds of some, who are very reluctant to admit the fact which should be plainly apparent to all, that not only the centre of population but the financial and intellectual centres are surely moving westward. Nothing worthy the name of argument has as yet been advanced in favor of it, neither can there be, for there is none to offer.

Some of the reflections which have recently been cast upon the management of THE JOURNAL, and upon the character of its contents, have been, to say the very least, uncalled for and out of place. The profession as a whole is not only well pleased with THE JOURNAL, but is proud of it, and in my judgment with the best of reasons. I turn to my old volumes of the London *Lancet*, the *American Journal of Medical Sciences*, and others, and search in vain for anything so nearly representing and embodying advanced thought and progress in all departments of the profession.

No! Leave it where it is, in Chicago, the eighth wonder of the world, destined to be, within the lifetime of thousands now living, the greatest city upon the Continent. I would leave it in Chicago also because its great and growing success has already been achieved there, and that city is the home of many of its best and earliest friends, one in particular, whose name I need not mention. There are no end of arguments that could be

advanced against the change, but the facts have been so ably and unanswerably set forth by recent writers that I will not enlarge upon the theme.

There seems good reason to believe that, in many respects, the welfare of THE JOURNAL would be jeopardized by the consummation of the proposed change, and I have little fear that the small and obscure band of "kickers" can succeed in the consummation of this folly.

LUTHER BROWN, M.D.

Rockford, Iowa, March 3, 1891.

To the Editor:—In my opinion THE JOURNAL should remain where it is. It is centrally located and prosperous. Chicago bids fair to become one of the great centres of learning, generally and specially. Sooner or later, its great clinical advantages will go far toward helping to make it one of the, if not the centre of medical learning.

J. B. WALKER, M.D.

Effingham, Ill., February 26, 1891.

To the Editor:—Being a reader of THE JOURNAL, and interested in the question of its removal from the old stand, I was curious enough to figure out the number of subscribers (members) in the principal Eastern cities as compared with those in the West, and I find Chicago leads them all.

The number of subscribers (members) in the Eastern cities is as follows: Philadelphia 109, Washington 82, New York 77, Baltimore 35, Brooklyn 25, and Boston 33, making a total of 361 copies distributed in six cities with a population of nearly five millions. In the Western cities: Chicago 171, Cincinnati 83, St. Louis 79, Louisville 24, Detroit 25, and Cleveland 20, making a total of 405 subscribers (members) in six cities of a population of about two and a half million. The Eastern States make the following showing: Pennsylvania 397, New York 234, Massachusetts 121, New Jersey 55, and Maryland 44, a total of 851 in a population of nearly sixteen millions. In the West: Illinois 406, Ohio 372, Indiana 275, Iowa 220, and Missouri 213, being a total of 1,486 subscribers (members) in a population of about fourteen millions. I take these from the list of members published in THE JOURNAL at the conclusion of the last volume.

So far as the advertisement department is concerned, New York and Chicago seem to be about equally divided. Washington, however, has only three advertisements, viz.: the Medical Department of the University of Georgetown, J. E. Ruebsam, and that of the Librarian of the Association. I have simply for curiosity found these figures, and they can be used by either party accordingly as they look at them.

READER.

Washington, D. C., March 6, 1891.

To the Editor:—I have read the arguments pro and con, anent the removal of THE JOURNAL. My vote is with Chicago, believing it to be to the best interests of THE JOURNAL to remain where it is. Would it not be well to request every member of the Association to send a postal card with his vote, not later than April 4. I believe we are all interested enough to do this, and in this way it will not cost THE JOURNAL much to find out which side has the majority.

PHILIP DICKES, M.D.

Boundary, Ind., March 7, 1891.

To the Editor:—Please allow me to record my vote in favor of THE JOURNAL remaining in Chicago. "Let well enough alone!" A thousand reasons and arguments might be offered why it should remain in Chicago, while as many could be given against its removal. "Westward the star of Empire takes its course." Chicago is certainly a great medical centre, and perhaps the greatest railroad centre in the Union; her future is great, so that

there cannot be a doubt of the future success of THE JOURNAL, for its financial condition is on a sound and enduring basis, while its editorial management has always been of the highest order. Its editorials are learned, progressive, broad and cosmopolitan. While its attitude has been conservative and judicious, it has assumed a high position for the advancement of the whole domain of medicine. The aim of THE JOURNAL has been of a high and lofty character in the exposition of the grand principles of the Code of Medical Ethics. It has also been a most potent factor in the effort to raise and elevate the standard of medical education. THE JOURNAL has been loyal to the masses of our noble profession, and in this it has been as free from the manifestation of a partisan spirit as the most liberal-minded person could expect, and the profession will give their loyalty and support in return. By all means leave THE JOURNAL in Chicago.

H. H. MIDDELKAMP, M.D.

Warrenton, Mo., March 5, 1891.

To the Editor:—Allow me, as a member of the American Medical Association since 1877, to enter my protest against the removal of THE JOURNAL to Washington. I fail to see any good reason for its removal.

H. ISAAC JONES, M.D., L.R.C.P.E.

118 Grant Ave., San Francisco, Cal., March 7, 1891.

To the Editor:—No!

GEO. A. ZELLER, M.D.

Peoria, Ill., March 9, 1891.

To the Editor:—You may record my vote in favor of Chicago as the home of THE JOURNAL.

J. D. COLE, M.D.

Newbern, Tenn., March 9, 1891.

To the Editor:—It is a matter of no urgent importance to the readers of THE JOURNAL whether it be published in Chicago or in Washington, unless it can be proven that it can be made a better journal in Washington than it can in Chicago. The members of the Association estimate THE JOURNAL by its merits and hold the Editors and Publishers responsible for its character. It should be left with them to determine where it would be most convenient for them to do the work and do it best. When the National Government makes liberal appropriations for the establishing of a National Medical Institute, and makes provisions for professorships by which experimental research can be conducted; where hospitals, libraries, museums and other necessary helps are provided by the government, as is done in some other countries; then I say move to Washington.

J. W. HARVEY, M.D.

Indianapolis, Ind., March 10, 1891.

To the Editor:—Record my name in favor of removing THE JOURNAL to Washington. The official representative of the profession should keep as closely to the government as possible.

E. T. B. GODFREY, M.D.

Camden, N. J., March 10, 1891.

To the Editor:—The location is of much less interest than the character of THE JOURNAL. The members of Congress are very careful about their journal. It is a record of their doings. It is a photograph, so to speak, of each individual as well as the whole. A journal goes into history as the exponent of this or that body of men. Now, Sir, I submit that all this squabble about location, will not appear upon the page of history as reflecting a very bright halo of glory from the A. M. A. Therefore, I move the previous question. Let us have no more of it.

S. E. HAMPTON, M.D.

Milton, Ky., March 12, 1891.

To the Editor:—I cast my vote in favor of THE JOURNAL remaining in Chicago, the best place for it.

L. L. LEEDS, M.D.

Lincoln, Ill., March 13, 1891.

To the Editor:—In reference to the removal of THE JOURNAL to Washington, I have a high appreciation of the Eastern brethren and their journals, and their ability to conduct them. I have just as high an appreciation of the profession in the West, as I have of those in the East, and regard them equally competent to conduct THE JOURNAL, as the former, and therefore object to the removal of THE JOURNAL from Chicago to Washington, as a useless and needless expense, besides the accompanying loss of talent which would follow.

J. W. CRAIG, M.D.

Mansfield, O., March 12, 1891.

To the Editor:—Dr. Comegys' letter in last week's JOURNAL was a most agreeable surprise to me. I feel that he has given a new interest to the subject, and made in reality a most convincing plea to have THE JOURNAL remain where it is. One or two more letters of this character would practically fix THE JOURNAL at Chicago for at least a generation to come.

While the text of his letter seems to favor a removal to Washington, the reasons he urges are the very strongest which have been published, showing the necessity of leaving THE JOURNAL where it is.

The charge of conservatism and want of aggressive spirit is the highest compliment he could pay to the present management. The unwillingness of the managers to select a highly competent editor to direct things, is equally flattering; the history of medical journalism shows that only through prudent conservatism, and with a non-aggressive spirit, can any journal hope to survive the perils of childhood. The sagacity of the managers is commendable who early recognized that highly competent editors were not on the market, but were products that had to be grown; also that the very laudable ambition to attain an exalted position, and become the leading journal in the country, was also a matter of growth hardly attainable in eight years—especially in view of the historical fact that for nearly half a century journals in Boston, New York, and Philadelphia have sought to attain this position, sustained by capital, enterprise, and very superior intelligence. Yet it is by no means clear that any one of these journals lead all the others, or have attained the exalted position of the great journal of the country.

It would appear to be of the nature of a miracle to expect a journal depending entirely on the good will of an association, and in the face of over a hundred rival journals, to become independent, and attain a degree of solidity and leadership that would command the Association, in eight years. It took over a quarter of a century of experience for the *British Medical Journal* to attain this, and many journals of longer experience sustained by large capital and shrewd management have not yet accomplished it.

It will be new to practical business men, that the consciousness of the National Capital is of so much importance in the life of a struggling journal. While this power in Chicago may not equal that of Washington, the value of this spirit entity would rank very low amongst business men. The same may be said of the social and political recognition possible at Washington. Experiments in the publication of journals have been going on for over half a century. Publishing houses, colleges, societies, men with capital, and ambitious physicians of all grades, have tried every conceivable plan to grow and build up a National journal. Change of location, consolidation, cheapness of rates, frantic appeals to the readers, selling out to advertisers, and yet all failed.

The same experiment is repeated to day, and if Washington offered the slightest possible advantage over Philadelphia or New York or Baltimore, shrewd men would occupy the field at once. If Washington could infuse new life in any journal, or make its success any more certain in the future, many well established journals would move into this field in a week. Over thirty journals are published within a day's ride of Washington, and not one of them have yet discovered that this city offers any possible inducement, or promise of success for the publication of a medical journal.

To practical men who know what medical journalism is, there is only one road to success, and that is along the line of prudent conservative management, with the least possible risk in any direction. The change to Washington is a risk, it is leaving a certainty for an uncertainty, and the hunt for an ideal editor will go on while the world lasts.

Dr. Comegys' letter comes like a flash light along the shore, telling us of the danger of a change to Washington and warning the members to look out for breakers.

A wild rocky beach strewn with wrecks of journals is in sight, and I ask in the light of the history of journalism in this country, what reasons have we to expect that the change of location and change of management will not end in a wreck on the same shore? Will THE JOURNAL escape the same fate which has befallen others?

There can be no doubt that Dr. Comegys was obscure as to names, and that the central idea of his letter was to have a good practical journal grow up where it is at present, and be an honor to the Association. If this is not clear another letter from Dr. Comegys will settle the difficulty at once.

T. D. CROTHERS, M.D.

Hartford, Conn., March 16, 1891.

To the Editor:—I am not in favor of the removal of THE JOURNAL from Chicago to Washington, because I feel confident that such a measure, if carried out, would be a rash one, and would prove to be a serious detriment to the future prosperity of THE JOURNAL. The permanent establishment of THE JOURNAL at Chicago, and the selection of Dr. Davis as its editor-in-chief, gave indications of a grand success in the development of medical knowledge and practice, and in the evolution of a journal that should be second to none in this country, if not in the whole civilized world, and of a journal that all fair-minded persons would regard as worthy of its distinguishing title, "Our National Medical Journal." That these anticipations have been largely met there can be no question. We have ample proof that THE JOURNAL has been extensively read, and the reports of cases have been gleaned, incorporated in other papers published not only in our own language, but also in the languages of other countries.

Some fault has been found because all the papers published have not been up to certain individual standards. In answer to this I need only say that the appearance of such articles in our journals is not so much the fault of the editorial staff as it is from the crudeness of many of the theories of the medical profession generally. The profession was not made for THE JOURNAL; THE JOURNAL is but a mere reflection of the methods of practice of the individual members composing the Association. Since the American Medical Association was founded, and more especially within the last decade, there have been organized many different associations composed of specialists. The peculiar standards of many of these have directed the attention of their members toward the preparation of papers in accordance with their own requirements, to be included in volumes of their own publication. Notwithstanding all these drawbacks, the American Medical Association has had the good fortune to be able to publish some as carefully prepared papers as were ever offered as contributions to associations of such special class.

Should we change our location of publishing to Wash-

ington, what guaranty would there be that our journal, which was not established, of course, for a clique, class, or for any special hospital staff, or for political incumbents, but rather to be a National journal, would be better enabled to eradicate the evils that have been charged against it, to say nothing of incurring the risk of sinking below the standard to which it has already attained? *We cannot afford to try the experiment.* The profession of Washington, though counting among its members several worthy and distinguished lights, is not specially famous for organizing and maintaining medical journalism. The city itself is not a great centre; it is too far east. It is true that Washington is our National Capital; it is also true that it is the *rendezvous* of a large class of politicians and office-holders who can only thrive by having their hands in range of the public purse. From such we should be forever divorced.

Something has been said relative to the Medical Library and the Museum at Washington. In regard to that argument, I fancy that the supposed advantages of such helps are more theoretical than practical. Their collections, for authors of larger works and for students of special study, will always prove, no doubt, to be priceless value. For editors who are to keep abreast of the times, and who are to inspect and supervise papers for a weekly journal, I fail to see how these great collections can be of all-important service.

That Chicago is a good field and is abundantly able and ready to sustain a first-class journal, no one can deny. The city is of sufficient distance from Boston, New York, Philadelphia, etc., as not to interfere with those local centres. The location of Chicago has given the city a strong, healthy and marvellous growth. The medical profession of Chicago stands high. I have only to instance the reports and proceedings of her Gynecological Society to corroborate this statement. Its Transactions are the very models of what such a Society should present. Let us, then, retain our old base of operations, ever seeking to uphold the standard of OUR JOURNAL, for in so doing we are confident that we have a rich and brilliant future before us.

AUGUSTUS P. CLARKE, M.D.

Cambridge, Mass., March 8, 1891.

To the Editor:—It would seem from the number of opposing voices that the proposition to remove THE JOURNAL from Chicago to Washington is overwhelmingly swayed under. This, however, does not prove that the minority who favor the change is in the wrong. Between the lines of all these staunch advocates of Chicago a strong sectional bias is plainly visible. Whenever sectional prejudices are permitted to rule, then all hope of a judicial frame of mind is gone.

The geographical or population argument, which has been so strongly emphasized by nearly all who oppose the change, really has no place in this question.

The question is not a commercial or a financial one, much less is it a question of noses. All these would have great weight were a bank, a manufacturing or a pork-packing establishment to be located, but in the selection of a suitable place for publishing a scientific journal they, in my opinion, ought not to enter.

It is simply a question of "the eternal fitness of things." THE JOURNAL is a representative sheet, the mouthpiece of the medical profession of the United States, and as such, it ought to have its home at the Capital of the Nation. It should not be associated or identified with the name of any town, city or section, however mighty it may be, save only, the Capital City of the whole country.

Of course, there are many other good reasons, why THE JOURNAL should be issued here. The fact might be cited, that Washington is fast becoming a centre of literary and scientific culture. Every year, men and women possessing attainments in these directions come from all parts of our land, and either settle here permanently, or

for a portion of the year. They find in the great Congressional Library, in the Smithsonian Institution, in the National Museum, and in the different departments, are untold wealth of materials suitable for their study and investigation. Men of all shades of political or religious opinions, inventors, people with various literary scientific bent are wont to visit the National Capital for an exchange of views or for recreation. While everything of this sort is centering and crystallizing in Washington, would you have the medical profession make for herself a capital elsewhere? London, Paris, and Berlin and other cities of Europe, is each the literary, scientific and medical, as well as, the political capital of its respective country; why should Washington be an exception in this respect?

I am fully aware that some men are so provincially inclined as to lose their appetite when away from home or from their accustomed place at table, or fail to relish the news of the day, unless dished up by their favorite newspaper, but it is to be hoped that these little peculiarities and prejudices will not be permitted to sway the judgment in selecting a permanent and suitable home for THE JOURNAL.

J. W. SHIVELY, M.D.

Washington, D. C., March 16, 1891.

To the Editor:—Having looked the ground all over fairly and carefully I have come to the conclusion that there is no place better fitted for its publication than Chicago. There are many reasons why, but as they are familiar to all I will not rehearse any.

E. J. TIDD, M.D.

Clark, Pa., March 12, 1891.

To the Editor:—I vote to have THE JOURNAL remain at Chicago. I appreciate its weekly visits, and hope its era of prosperity will constantly increase.

J. A. HINES, M.D.

Van Wert, O., March 13, 1891.

To the Editor:—Why should we move THE JOURNAL to Washington? It is a great political centre and nothing more. We do not want THE JOURNAL entangled in the wire-pulling of medical politicians. THE JOURNAL is the expression of the American Medical Association, and not of self seekers in politics. Certainly the "original work" could not be improved by locating it at Washington. I do not know of much lasting original research coming from a political centre. The men in such places are usually too busy in self seeking to work very hard. By all means keep THE JOURNAL in Chicago.

JAMES T. JELKS, M.D.

Hot Springs, Ark., March 13, 1891.

MISCELLANY.

DR. HOSMER ALLEN JOHNSON.—The following resolutions were adopted by the Faculty of the Chicago Medical College at a meeting held on February 28, 1891:

Resolved, That in the death of Hosmer Allen Johnson, M.D., LL.D., the Chicago Medical College has lost the services of one of its founders and most active, able and eloquent teachers; the Northwestern University one of its wisest Trustees and Counsellors; the medical profession one of its most learned, honorable and influential members; and the community one who for nearly forty years has been an active, skilful and untiring benefactor to the suffering, alike in peace, in war, and in the midst of the direst of conflagrations.

Resolved, That to his bereaved family and friends we tender our most sincere and abiding sympathy, and the assurance that their temporal loss is his eternal gain.

Resolved, That the Secretary of the Faculty furnish a copy of the foregoing resolutions to the family of the deceased, and to the medical and other periodicals of this city.

N. S. DAVIS, M.D., LL.D.

EDMUND ANDREWS, M.D., LL.D.,

RALPH N. ISHAM, A.M., M.D.

Committee.

LETTERS RECEIVED.

Allison, Ia., Bank of Allison.
 Alma, Mich., Dr. L. J. Belknap.
 Alma Center, Wis., Dr. J. R. Breakey.
 Ansonia, Conn., McArthur Hypophospite Co.
 Asheville, N. C., Dr. Carl von Ruck.
 Athens, Ga., Dr. J. H. Goss.
 Austin, Texas, Dr. Q. C. Smith.
 Bakersfield, Cal., Dr. A. C. Rogers.
 Baltimore, Md., Baltimore Medical College, Dr. R. D. Cole.
 Bedford, Pa., First National Bank.
 Bertrand, Neb., Dr. H. E. Harrington.
 Binghamton, N. Y., Dr. J. M. Farrington.
 Birmingham, Ala., Dr. E. B. Davis, First National Bank.
 Birmingham, Conn., Dr. C. H. Finney.
 Boston, The Press Clipping Bureau.
 Brainerd, Minn., Dr. J. H. Hunt.
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 Wm. McCollom, Dr. N. B. Page, Dr. H. D. Schenck, Dr. N. B. Sizer,
 The Wm. C. Warner Med. Mfg. Co., E. D. Homoeopathy Pharmacy.
 Buffalo, N. Y., Dr. G. E. Fell, Dr. M. B. Follwell.
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 Cary, O., Dr. Asa Brayton.
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 Columbus, O., Siebert & Lilly.
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 Denver, Colo., Dr. J. B. Dervlin, Dr. Robert Levy.
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 Davis & Co.
 Duluth, Minn., Dr. S. C. McCormick.
 East Greenville, Pa., Perkiomer National Bank.
 Elkhart, Ind., Dr. F. E. Eckman.
 Ellsworth, O., Dr. R. C. Fausett.
 Eureka, Ill., Dr. C. F. Banta.
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 Ft. Atkinson, Wis., Dr. N. P. Stair.
 Ft. Madison, Ia., Dr. W. T. Eckley.
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 Hoboken, N. J., Dr. J. E. Kreider.
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 Ipswich, Mass., Dr. W. H. Russell.
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 ger, Dr. G. N. Banker, Dr. T. J. Currie, Merchants' Exchange
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 Pharmaceutical Co., Henry Bend & Co., J. H. Chambers & Co., Dr. J.
 Steer.
 Scranton, Pa., Dr. T. M. Kay.
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 Spokane Falls, Wash., Dr. D. C. Nelson.
 Springfield, Ill., Dr. Wm. G. Eggleston.
 Tionesta, Pa., Dr. J. W. Morrow.
 Union City, Mich., Farmers' National Bank.
 Urbana, Ind., Dr. W. H. Martin.
 Warrensburg, O., Dr. Wm. McFarlane.
 Washington, D. C., Dr. S. C. Busey, Dr. I. C. Rosse, Dr. L. L.
 Loomis, Dr. I. Eliot, Dr. F. L. Magruder, Dr. McKim.
 Wessington, Dak., Dr. J. Chancellor Gilbert.
 Yonkers, N. Y., Dr. G. N. Banker.

*Official List of Changes in the Stations and Duties of Officers Serving
 in the Medical Department, U. S. Army, from March 7, 1891, to
 March 13, 1891.*

RETIREMENT.

Lieut. Col. Blencowe E. Fryer, Asst. Medical Purveyor, February
 24, 1891.

PROMOTIONS.

Major Charles R. Greenleaf, to be Lieut. Col. and Asst. Medical Pur-
 veyor, February 24, 1891.

Capt. Charles K. Winne, Asst. Surgeon, to be Major and Surgeon,
 February 27, 1891.

Capt. Timothy E. Wilcox, Asst. Surgeon, to be Major and Surgeon,
 February 24, 1891.

Capt. Fred. C. Ainsworth, Asst. Surgeon, to be Major and Surgeon,
 February 27, 1891.

Capt. Valery Havard, Asst. Surgeon, to be Major and Surgeon, Feb-
 ruary 27, 1891.

By direction of the Secretary of War, a board of medical officers, to
 consist of Col. Edward P. Vulliam, Chief Medical Purveyor; Lieut.
 Col. Dallas Banche, Surgeon; Major Alfred C. Girard, Surgeon; and
 Capt. Charles M. Gandy, Asst. Surgeon, is constituted to meet in
 New York City, on March 16, 1891, or as soon thereafter as practi-
 cable, for the examination of candidates for admission into the
 Medical Corps of the Army, and such other business as the Sur-
 geon-General may desire to bring before it. Par. 18, S. O. 52, A.
 G. O., Washington, March 7, 1891.

Capt. James A. Fuley, Asst. Surgeon, having been found by an
 Army Retiring Board incapacitated for active service, on account
 of disability which is not the result of any incident of service, is,
 by direction of the President, wholly retired from the service this
 date, under the provisions of Sections 1252 and 1275, Revised Stat-
 utes, and his name will be henceforward omitted from the Army
 Register. Par. 2, S. O. 54, A. G. O., Washington, March 10, 1891.
 Capt. Henry I. Raymond, Asst. Surgeon, is relieved from duty at
 Newport Bks., Ky., and assigned to duty at Ft. Thomas, Ky., re-
 porting in person to the commanding officer, Ft. Thomas, and by
 letter to the commanding General, Div. of the Atlantic. By di-
 rection of the Acting Secretary of War. Par. 18, S. O. 54, A. G. O.,
 Washington, March 10, 1891.

*Official List of Changes in the Medical Corps of the U. S. Navy, for
 the Two Weeks Ending March 11, 1891.*

Surgeon M. L. Ruth, granted one month's sick leave.

Asst. Surgeon S. G. Evans, detached from Naval Academy, and to
 the "Monongahela."

Surgeon A. F. Price, ordered to the U. S. S. "Monongahela."

Asst. Surgeon H. N. T. Harris, ordered for examination prelimi-
 nary to promotion.

Asst. Surgeon George McC. Bicknell, ordered for examination preli-
 minary to promotion.

P. A. Surgeon Ernest W. Anzal, ordered to the U. S. S. "Lancaster."

Asst. Surgeon Jas. H. North, Jr., ordered to the U. S. S. "Lancaster."

Surgeon James H. Gaines, ordered before the Retiring Board,
 March 12.

P. A. Surgeon G. W. Kite, from New York Hospital and to the
 "Lancaster."

Asst. Surgeon J. H. North, Jr., detached from the "Lancaster," and
 wait orders.

Asst. Surgeon G. T. Smith, from the "Independence" and to the
 "Mohican."

Asst. Surgeon George A. Lung, from the "Mohican" and to Wash-
 ington, D. C., in charge of insane patients.

*Official List of Changes of Stations and Duties of Medical Officers of
 the U. S. Marine-Hospital Service, for the Three Weeks Ending
 February 28, 1891.*

P. A. Surgeon W. J. Pettus, relieved from special duty as Inspector
 of Immigrants at Port of Boston, Mass. Ordered to Marine Hos-
 pital, Boston, Mass., February 10, 1891.

Asst. Surgeon T. B. Perry, granted leave of absence for thirty days,
 February 20, 1891.

Asst. Surgeon H. T. Goodwin, relieved from duty at Cincinnati, O.
 ordered to Marine Hospital, New York City, February 9, 1891.

Asst. Surgeon L. E. Coffey, detailed for special duty as Inspector of
 Immigrants, Port of Boston, Mass., February 10, 1891.

Asst. Surgeon J. M. Eager, assigned to temporary duty at Cincin-
 nati, O., February 20, 1891.

APPOINTMENT.

Eager, John M., of Pennsylvania, commissioned as Asst. Surgeon
 by the President, February 16, 1891.

THE

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CHICAGO, MARCH 28, 1891.

No 13.

ORIGINAL ARTICLES.

THE INFLUENCE OF THE POSITION OF THE PATIENT IN LABOR IN CAUS- ING UTERINE INERTIA AND PELVIC DISTURBANCES.

Read before the Gynecological Society of Boston, December 11, 1890.

BY AUGUSTUS P. CLARKE, A.M., M.D.,
OF CAMBRIDGE, MASS.

It has been generally taught that during the first stage of labor the patient may be allowed to assume that position which she considers the easiest for herself. Some accoucheurs encourage the patient not to take to the bed at the beginning of labor, but for the influence of the pressure of her own hands and the weight of the fetus in aiding flexion of the head and in promoting dilatation of the cervix, to maintain the sitting or upright posture. In the early stage, the dorsal position is often assumed; later, for convenience in making frequent inspection of the perineum, in assisting to carry out certain manipulative procedures, and in giving the necessary attention to uterine and rectal discharges, the left lateral posture is often advised. Some place the patient on the side to which the occipital presentation is inclined. Some reverse the position by placing the patient on the side toward which the sinciput or the vertex is descending. Women of the lower classes of some countries, while in labor, place themselves on their hands and knees. Other positions are sometimes assumed, such as half-sitting or partially reclining postures. Some women persist in standing or in getting on their knees. Formerly, the French women were delivered while in the dorsal position, with knees drawn up. In other countries, especially among the Aborigines, or among the half-civilized orders, many strange and singular positions have been assumed by women when in labor. Inquiry into the purpose for which any of the various positions which women have from time to time assumed while in labor, will show that the choice has been made more from the force of custom, from caprice, ignorance, and from a blind submission to authority—exercised by those who make unwarrantable pretensions to skill in midwifery, than from

knowledge deduced from facts gained by careful study and close observation.

The left lateral posture, with thighs drawn up and legs flexed upon the thighs, the shoulders projecting forward and the spine curved, has been thought to be more favorable for relaxation of the psoas and other muscles traversing the brim of the pelvis. This position has also been thought to be more favorable, as the axis of the entrance of the pelvis and that of the trunk would be on the same line, or be nearly parallel. Those who place their patients in such posture look upon the phenomena of parturition as dependent on mechanical forces, and not on the physiological function of the uterus and the powers of the system generally. The effectiveness of the uterine pains has been increased by change of posture, especially after the patient has maintained for a long time a constrained position. Under such circumstances, a mere temporary relief from a too irksome restraint has been followed by an increase in the general character of the pains which has more than counterbalanced any deficiency in the advantage of a better mechanical position. Women who are of a nervous temperament often find it exceedingly difficult, in the second, as also in the first, stage of labor, to undergo the fatigue of any one position for a considerable length of time. The vital forces of the system generally are often the first to suffer, and this fatigue quickly extends to the nervous force resident within the uterine and adjacent muscular tissue. The exhausting effects of a constrained position cannot be wholly overcome by the employment of anesthetics, for often the only manifestation of an expression of the baleful effects of too long constrained position is in the failure of the power of the uterine pains. The patient then begins to complain of weakness, she appears unable, or at least is unwilling, to move or to alter her position in bed. She may call for ether; if she is indulged by its employment the beneficial effects which follow are the result of its stimulating properties, and from change of position for its administration. If, unfortunately, the position is not materially altered, and the second stage of labor is not near its termination, the increased power in the pains derived by its administration will soon cease, and the patient will lapse into a state worse than the

one before its attempted administration. Fortunately, on the other hand, in such cases, in which ether is given with only temporary benefit, early in the second stage of labor, it is often deemed advisable to withhold it until the patient regains more or less consciousness. The outcries of the patient then for more ether, and the changes of position in bed she frequently makes, notwithstanding the severe restraint imposed upon her by the attendants, serve to increase the power of the pains and to bring to happy termination the second stage of labor.

Besides the occurrence of uterine inertia from long-continued position of the patient in labor, other disturbances are liable to arise. The effects of the blood pressure, and the gravitating of fluids toward the left uterine appendages and the peri-uterine structures, when the patient occupies for a long time the left lateral posture, should not be overlooked. Such untoward effects are particularly apt to follow in cases of those who suffer from cardiac affections, from disease of the lungs, bronchial tubes, kidneys, from general or partial cedema, and from deficient circulation. As already stated, parturition is not a mechanical but a physiological function, dependent upon a force having its origin in the nerves distributed to the uterine tissue and to the system generally. Whatever, therefore, tends to exhaust the general system, interferes with the normal action of the parts, and disturbs the proper function of the uterine tissue. When such disturbances are imparted to structures outside of the uterine walls, they are not easily overcome, but leave their impress more or less indefinitely on the parts involved. The great impressibility—as well as sensibility—which women acquire even in the early stage of pregnancy, is well shown by the development of that peculiar appearance denominated mother's marks which sometimes occur on the cutaneous surface of the child. It is not only in the early stages of pregnancy, but in every stage of that condition, and even for some time after delivery, that this highly sensitive condition obtains, leaving its impressibility more or less permanently not only on the fetus, but also on her own tissues adjacent to the uterine structures.

Among the puerperal lesions which may result from the lateral posture too long retained are affections of the bladder. The prolonged pressure of some portion of the fetus on the sensitive bladder arrests to a considerable degree the normal action of that viscus. It thus weakens its integrity—causes inflammation of the mucous surface. The inflammation in the bladder is prone to extend backward into the ureter. The ureter itself, on one or both sides, taking on inflammatory processes becomes distended with unhealthy urine. This may lead to rupture into the pelvic tissue, and thus give rise to sloughing or to the formation of abscess. I have notes of

the autopsy in the case of Mrs. E., who died during the third week after delivery. The death occurred after second confinement. The bladder throughout its entire surface was tumefied, red, and covered with dark, purulent fluid. The pelvis contained a quantity of semi-purulent exudation having the odor of urine. The left ureter was abnormally distended, it was inflamed and was found to have undergone rupture at a point three and one-quarter inches from the base of the bladder. The ureter on the right side, though somewhat inflamed from the contact with morbid urine, was not greatly distended. The history of the case showed that the patient was in labor some thirty-six hours, and that during the last twenty-three hours she had occupied for the most part the left lateral posture. The pelvis was well formed and of normal dimensions. The child was not large. It was born alive and did well. The cause of the delay in the delivery appeared to be owing to inertia into which the uterus had partially lapsed quite early in the second stage of labor. The patient had suffered from chronic cystitis and from marked anteversion of the uterus. Recto-vaginal and vesico-vaginal fistulae are lesions which now and then occur and which are largely the result of childbirth. Emmet mentions two hundred and two cases that were admitted to the Women's Hospital. One hundred and seventy-one of the cases were caused by child-birth. He says the average duration of the labor completed from rupture of the membranes was 58.69 hours. On another table he says 46.19 per cent. of the cases were delivered by forceps, and that the average duration of labor was 68.55 hours. Emmet does not coincide in the popular belief that instrumental delivery is the cause of fistulae. He rather attributes their occurrence to retardation in the progress of labor, induced by negligence to empty the bladder. Though he recognizes over-distension of the bladder as a factor in the production of fistulae, he does not appear to be wholly certain as to that condition of the patient being the final cause, for he says it is not improbable, since the averaged time is so long before the separation of the sloughs that the additional force in many cases necessary to effect the delivery may be the exciting cause of the inflammation. In six cases of vesico-vaginal fistulae whose histories I obtained, the additional factor could not be attributed to force necessary to effect delivery. It was clearly due to the position of the patient too long retained. In three of the cases the position was the left lateral, in two the dorsal; in one was the right lateral which the patient persisted in retaining for some forty-four hours.

Among the other inflammatory conditions which follow confinement are those of the uterine appendages. Sometimes we have salpingitis on one or both sides, but often more severe on one side. Sometimes the morbid process comes from

the escape of blood through the fimbriated extremity of the tube into the pelvic cavity. Sometimes we have following confinement an hæmatomic tumor or cyst, and occasionally, if not often, hæmatosalpinx. All these lesions or morbid processes, whatever be their predisposing causes, are influenced more or less by posture of the patient.

Hæmorrhage from the lungs and from other organs, and from the vascular tissues, is greatly influenced by position. In the treatment and in the prevention of such symptoms position of the patient and of the parts must always be a factor for consideration. In the management of hæmorrhage and accidents peculiar to the puerperal state position of the patient becomes of still more consequence. This is rendered so not only on account of the extreme sensitiveness of the organs and the system generally but also on account of the development of that nervous function and the exhausting exercise of it necessary for production and accomplishment of parturition. Another condition sometimes following labor is subinvolution of the uterus. The cause of this condition has often been ascribed to laceration of the cervix. Cases of subinvolution now and then occur in which no appreciable laceration can be found to have taken place. In such cases in the absence of a history of an injury having been received it is usual to consider the cause to be want of tone in the pelvic venous circulation.

I have the history of two cases of subinvolution of the uterus, in which there was no laceration of the cervix nor of the perineum. Nor was there any reason to suspect that there existed in either case a perverted condition of the system generally. Neither patient had sustained injury immediately preceding or during parturition. In one case uterine dyskinesia was also a troublesome symptom. In the other case, though the subinvolution was not so pronounced, there was for a long time inability to walk (uterine lameness). There was an increase of the tendon reflex, and there were areas of much sensitiveness in the vicinity of the dorsal and lumbar vertebrae. The first patient was in labor forty-nine hours, but was delivered without instruments. She occupied for the most part the left lateral posture. The second patient was in labor fifty-three hours. She was delivered also without instrumental interference. She occupied almost continuously during labor the dorsal posture.

In conclusion I would say that I have chosen this subject for consideration not because I am now prepared to offer any special rules for guidance as to the position of the patient in labor, but from a conviction, deepening more and more by experience, that posture in some, if not in a large class of cases, is an important factor in the production of derangement of uterine force and also in that of pelvic disturbance. Such perversion in

the function of the uterine tissue and adjacent structures is liable to be looked upon as being the result of some possible defect in the particular treatment in which all due and proper care may have been exercised, and not as the result of some other element in the management of the case for the reason of which it has not occurred to the medical attendant to make inquiries.

(For discussion see Society Proceedings.)

MIGRAINE AND FUNCTIONAL HEAD-ACHES FROM EYE STRAIN.

BY PETER A. CAILLAN, M.D.,

SURGEON NEW YORK EYE AND EAR INFIRMARY.

Writers on nervous diseases, as a rule, devote considerable attention to migraine, its etiology and clinical phases. It is generally conceded that it is due to some special sources of irritation, whether in the stomach, uterus, eye or elsewhere in the system. The eye is often honored as a causative factor with the appropriate heading of "Ophthalmic Migraine." Physicians and scientists have recorded minutely and accurately, attacks occurring in their own persons. Among these, Wollaston stands preëminent as the first who drew general attention to one phase of this functional disturbance, viz.: temporary hemianopsia. A dissertation on the "Semi-Decussation of the Optic Nerves" was published by him in the "Philosophical Transactions" a few years prior to his death, which took place in 1806, from organic disease of the brain. In this paper he stoutly affirmed his belief in the semi-decussation of the nerves at the optic chiasm. He arrived at this conclusion by a study of his seizures of temporary homonymous hemianopsia. His experience led him to regard temporary hemianopsia as common in migraine seizures. Sir John Herschel, Sir Charles Wheatstone and Dr. Herbert Airy have recorded their special phases of the disease.

Parry, to whom credit is due for first having drawn attention to that complex disarrangement of several organs, which we now designate as Basedow's or Graves' disease. He described the eye symptoms occurring in his own person during migraine attacks as incomplete scotomata, lasting from twenty to thirty minutes. We find various names used to designate these attacks: migraine, megrim, sick or bilious headaches, hemicrania.

The influence of heredity is marked, and we find a neurotic element in many of the cases. Women are supposed to suffer much more frequently than men. Eulenburg states that the proportion is five to one. Three to two would be more in keeping with my record of cases. We find that migraine is likely to last from the fifteenth to the fiftieth year—the active period of life; that young children and quite old may suffer with it. In the majority of these attacks the pain is apt to begin

on one side of the forehead or temple, more often the left, involving the ophthalmic division of the fifth nerve with its branches, and at times the occipital and its branches, but in the severe seizures the pain is not confined to one side but includes both. In some the first manifestation is dizziness; in others the eye symptoms precede the head and stomach. After a variable interval of pain, the eyes become affected—perhaps a temporary blindness, half blindness or blur of objects, scotomata, light phenomena, which assumes in some cases fantastic shapes, great intolerance of light and noise; eyes become bloodshot and painful, especially when the eyes move in their sockets. This lasts from fifteen minutes to half an hour; then the stomach manifestations are in order; this varies from mere nausea to the most violent retchings and vomiting. This is usually the turning point of the attack, and if the patient can only get asleep, he awakens free from pain, but weak. The duration of an attack may be from a few hours to two days.

The subdivision of migraine into anæmic and congestive types as a classification has something to recommend it, but in practice the exceptions outnumber those that follow the rule. Even in the same individual the attacks vary in duration and severity, sometimes being so slight that all ordinary routine work is done without much disturbance, while again the head, eye and stomach symptoms are so severe that life is not worth living. The patient lies in bed utterly prostrated, pale, drawn countenance, racked with pain and vomiting, unable to bear the slightest noise, while light is simply intolerable—a picture of misery. Liveing's appellation, "nerve storm," becomes very appropriate.

These nerve storms vary in frequency from only a few in the course of a year to one or two in a week. This difference we attribute to the health of the patient, and in the main we are correct. At the same time, if we question closely such a patient, we find that headaches are of very frequent occurrence, oft-times daily; they have become so common that they accept them philosophically. The pains extend across the brows, temples, back of head and even descending down the cervical vertebrae. Close work is certain to produce a headache; so is shopping, watching a play at the theatre, or looking out of a car window while traveling, and if the headache is not an immediate sequence it is likely to come on the next morning. I have known patients who could not look at a floor of square marble tiles or patterns of wall paper without a headache, even at times amounting to migraine.

Many of these sufferers are nervous and irritable, especially if the health is below par. Trifles upset them, and not a few pass into an neurasthenic condition. Stevens, in his book on "Functional Nervous Diseases," gives it as his experi-

ence that the eyes are the most prolific source of nervous disturbances, and more frequently than any other conditions contribute a neuropathic tendency.

As to the pathology—the views are as numerous as the observers.

Du Bois Reymond, in 1860, arguing from his own personal manifestations of migraine, held that there is a tetanic condition of the vessels of the affected side, with involvement of the cervical sympathetic. Mollendorf maintains that there is a dilatation of the vessels due to paralysis. Liveing, that there is a nerve storm passing through the centres at certain intervals constituting an attack of migraine. Latham, that owing to a spasm of the vaso-motor nerves there is primarily a condition of anæmia of the parts of the brain affected.

In all probability each of the views expressed describes one stage and only so much: that the hemianopsia scotomata and other ocular phenomena result from anæmia of the controlling cerebral centres, and are due to the contraction of the capillaries, brought about by irritation of the sympathetic vaso-motor nerves. This stage is but temporary, not exceeding an hour at most, and is followed by a stasis or congestion, causing the pain within the brain, followed by stomach and other disturbances. There are no two eyes exactly alike—we unconsciously use the better eye more than its fellow, hence the one-sided pain in mild attacks.

Binocular vision is a very complex performance, demanding for its accomplishment the harmonious coöperation of several cerebral centers—cranial nerves and the sympathetic system. The 2d, 3d, 4th, and 6th, and perhaps in a measure the 5th cranial nerves, as well as the sympathetic, are called into play. One or more parts of this system may be defective, thereby throwing extra strain on the others. The refraction of the eyes is usually at fault, with secondary involvement of the muscles—ciliary and external ocular muscles. A common illustration of this is seen in convergent squint, owing to a deficient refraction of the eyes—it becomes easier to sacrifice binocular vision and work with one eye. The result is that the external rectus of squinting eye becomes weak, while the contracted internus is over developed.

To the memory of Donders mankind owes an undying debt for his classic work. He placed the refractive errors of the human eye on a scientific basis. To give some idea of the misconceptions that were extant with regard to the refractive errors I will quote Mackenzie, a great authority in his day and that not fifty years ago, while writing about presbyopia, or farsight. He states when it came on suddenly much under the age of forty it was due to *some disease* within or behind the eyes. It was even observed in chil-

dren; in all such cases evacuating remedies were found useful. Leeches to the temples; blisters behind the ears and the use of purgatives. These, he naively remarks, generally cured. He quotes the case of a boy under Mr. Ware's care, whom the master at school frequently whipped on account of defective sight. Mr. Ware supplemented the school master's counter-irritation by evacuating remedies, and effected a cure. I have no hesitation in saying that refraction errors of high degree have great influence on the formation of the character. The young myope seeks companionship in his books—grows introspective—lives in an ideal or unreal world of his own creation; becomes bashful, diffident, and takes no part in the sports of his companions, so that his physique suffers. The hyperope with high degree of error learns but slowly on account of the great strain to see—books are to him distasteful—may be classed as a dullard by his parents and teachers—often censured unjustly, when really he has entered the race heavily handicapped.

Donders, in his classic work, states distinctly that the emmetropic, or normal eye, is one with a small amount of error, which must not exceed $\frac{1}{10}$ of hyperopia; while under astigmatism he writes, "so long as astigmatism does not essentially diminish the acuteness of vision, we call it normal, and if it amounts to $\frac{1}{10}$ or more it is abnormal."

Donders published his book over twenty-seven years ago and his observations were made in Holland. With regard to our country, at the present time, the errors which he accepted and called normal are too great to pass uncorrected, especially if the patient suffers from headache or other nervous disturbance. The hurry and excitement incidental to life, in a large city, combined with our stimulating climate, tend to exhaust the system much sooner than abroad.

Every organ has its limitations of work and endurance, and the human eye is no exception to this rule. Further, a normal eye is the exception, and when we impose or exact of our eyes an amount of work that calls for very great strain to accomplish, pain and nervous disturbances are most likely to develop. I do not advocate that all refractive errors of the human eye should be corrected, but if we have reason to suppose that such errors are prejudicial to the comfort and health of a patient, it becomes our duty to have that strain removed by suitable glasses. When vision is poor and the daily avocation demands good sight, correction is in order as a matter of course. With the aid furnished satisfactory work can be accomplished, and the eyes used within the ordinary physical limitations, which we must all learn for ourselves. As a rule it is not such cases that perplex a physician, for if there is any oblivious defect of sight, with pain and blur following the use of eyes, the patient may know of

the defect and mention the fact, but this does not necessarily follow.

The difficulty is with the masked cases of refractive error, when the vision is excellent and a fair amount of work done without much apparent discomfort. The majority of patients claim that their vision is excellent, when, in fact, oftentimes it is quite indifferent. Questions as to the eye strains are stoutly denied; not through any wrong motive, but they have such abiding faith in the excellence of their eyes; and further, few persons study themselves carefully. Any headaches or migraine attacks are promptly attributed to some cause, dyspepsia, liver, or neuralgia, and then they have always suffered, at least for many years, that one or the other of the parents, suffered in a similar way, and how can they expect to escape.

I well remember the case of a lady ten years ago who had long and frequently suffered from migraine, who was cured by wearing glasses. When I first suggested to her that her eyes were at fault she remarked that it was impossible, for her vision was excellent and none of the many physicians whom she had consulted, both at home and abroad, never even mentioned such a thing.

In very many of these cases distant vision is good and if they could be ranchmen, sailors, or lead a pastoral life, there would be but little trouble worth mentioning.

In examining patients who suffer from functional headache and migraine we should resort always, when it is possible, to mydriatics, so as to put the ciliary muscle at complete rest. There are quite a number to select from—sulph. atropiæ is most generally used, but where time is of importance we can get satisfactory results from a combination of homatropine and cocaine—two per cent. to four per cent. solution; the effects pass off in about twenty-four hours. No one is justified in excluding the eyes, as a cause, until a thorough examination is made, as to refractive errors, under complete ciliary paralysis. I have frequently found that correcting 0.25 D. of astigmatism has given complete relief.

In testing eyes the accepted standard of $\frac{20}{20}$ vision is only a guide, for with young patients $\frac{20}{20}$ is not very exceptional. So that a glass in such a case, that gives a vision of only $\frac{20}{20}$, is not the correction and we should look further. If we find that a convex glass appears to correct—try and see if a combination of a weaker convex with a weaker cylinder does not do equally as well, if not better. To any one who has much experience in this line, it is often surprising to note the various combinations which appear to give equally good vision, viz.: $\frac{20}{20}$ in a given case, and often considerable care must be exercised in deciding which gives the best results on the astigmatic chart and test type card.

Always fully correct the astigmatic error, but

in respect to the ametropia which may exist, too many factors have to be considered to discuss the subject in this paper. Test ocular muscles before and during the accommodative paralysis. It will be found that the results vary very much at different examinations. I am of the opinion that the eye strain makes faulty ocular muscles and generally, the ametropia satisfactorily corrected, the muscles will not be a disturbing factor. Hypermetropic astigmatism furnishes the greatest number of cases for the simple reason that myopia is rare, comparatively speaking, when we consider the whole population.

Correct for distance and near work; insist on the continuous wearing of the glasses, but here we strike a snag, for many, especially women, will not wear glasses out of doors. They would rather take antipyrin, or some similar drug, when they have migraine.

In conclusion—from an extended experience of years, with hundreds of cases, I am forced by experience to regard eye strain as the cause in over seventy-five per cent. of all the cases of functional headache and migraine.

THE INFLUENCE OF GERMAN UNIVERSITIES UPON OUR PROFESSION.

Read before the American Academy of Medicine, at its Fourteenth Annual Meeting at Philadelphia, December 4, 1890.

BY HENRY E. DWIGHT, A.M., M.D., D.D.,
OF PHILADELPHIA, PA.

From the minutes of the Council, I extract the following authority for the selection of my subject, and its presentation at this meeting of the Academy:

In accordance with the leading objects of our organization, the education of the physician, both preliminary and technical, the relations of the profession in this country to that of other countries, and the elevation of the literary, scientific and social standing of the Profession, are especially appropriate subjects.

In view of the fact that the constitution was altered at the last annual meeting so as "to admit, in addition to those possessing the degrees of A.B. and A.M., those who can present evidences of preparatory liberal education equivalent to the same"—the subject proposed in the following paper is of vital importance at this meeting of the Academy.

INFLUENCE OF GERMAN UNIVERSITIES UPON THE MEDICAL PROFESSION.

1. *What is a University?*

It is one thing in America, another in England, and something else in Germany. Hence the importance of a clear definition. The University of London has no teachers, no scholars, no buildings, except a room in Burlington House, no libraries, no laboratories, and yet it has a brilliant staff of Professors in the Scientific and Medical Depart-

ment. It is simply the Napoleonic University of France without the principle of teaching. Why not, therefore, have a University without teachers, in this age of printing, of many books on every subject? Because, the mind, the voice, the eye of the living instructor is as necessary to-day as in the days of the Athenian Agora or Academia, with Plato, Aristotle, Socrates and their pupils. In Germany by these means Hegel in philosophy, Dörner in theology, Hoffman in chemistry and von Virchow in physiology, have been equally successful.

Hence a University is a body of instructors, teaching the highest knowledge, of the most worth to men, dealing with their dearest interests, appealing to their finest powers and noblest feelings. To aid them in this blessed work let the University prescribe certain courses and what rewards shall follow a complete and thorough training; and not for these alone, but let them arrange for those who thirst for knowledge, and earnestly desire the best sources, who should be welcomed to lectures suited to their needs, just as hungry souls pass through church doors always open to satisfy their wants. Therefore Universities must teach, must vivify knowledge, by appeals to the discursive reason and the creative imagination. But they must do more. Among the services they render when rightly conducted, is the prosecution of scientific research into facts imperfectly examined. True teachers are always progressive and not content with imparting the conclusions of others. They are investigators for testing the observations of their predecessors, while reaching their own conclusions. In the natural sciences, they will observe phenomena, collect and classify observations, draw inferences and force nature to give up her secrets by experiments. Among the greatest teachers in science a large number have been and are now, discoverers.

In such an institution, famed for its teachers and its original researches, a young student in medicine escapes exclusiveness, because the methods of one science are corrected by those of another. In such an atmosphere, theologians and mathematicians are not intolerant of the votaries of natural science. The student sees a host of men, eminent in genius and industry, who enlarge his horizon by bearing her torch into abstruse paths of knowledge, to masterpieces of thought and feeling which bear fruit in his own mind through life. Hence the Catholicity of his views, the elevation of his feelings and the success of his pursuits.

2. *But what claims have the German Universities on our peculiar attention to-day?*

Montesquieu, in his "Spirit of the Laws," declared that the English Constitution is found in the forests of Germany, which is abundantly confirmed by Tacitus, and in later days by Palgrave Kemble and Sir Henry Maine. English customs

and laws migrated with the Pilgrims to America. The Germanic System of common fields was revived as Commons or Town Lands in New England. The Saxon Hege, Warden of the Hedge, was the pound keeper of the United States. In the Mayflower's cabin was representative government, and in the Pilgrim's soul there was reverence for law, to be maintained in a legalized, organized town, with a church for God's worship and a seminary of learning for man's welfare, on which rested the institutions of a new world. Hence Harvard and Yale are the legitimate offspring of Teutonic ideas and German ideals—the "Alma Mater" of a numerous family.

German Universities are controlled by the ideas that *national unity* depends on *national culture*, that the *powers* that be are ordained of God, and that *rulers are to be obeyed*, if they consecrate their *power to the welfare of the whole people*. The instruction is by means of lectures, and the discussions are conducted by the professors. With the highest instruction in theory are combined laboratories, clinics, and the best apparatus for observation and experiment, to secure practical instruction. Diligence and scholarship are rewarded by degrees which the student must have before he can graduate or enter a profession. Our colleges are stepping-stones, like their gymnasia, to a university. We have no institution which the Germans will recognize as a university, and they have none which an intelligent American would recognize as a college. Their high schools, with a six years' course, furnish a general education, not a liberal one, and are designed to prepare students for business life. The school for liberal education is the *Gymnasium*, with a nine years' course, which pupils begin at nine years of age. Linguistic and historical studies are the peculiar principle of the gymnasium, and as the Minister of Education, von Gosler, officially declared in 1882, "are designed to prepare for independent study at the University."

The *Real Schools*, the rivals of the gymnasia, have received their inspiration from the people, and were promoted by progress in natural science, industrial pursuits, and in realism, instead of idealism. They emphasized modern languages, history, mathematics and natural science. The *real* was to be secured by the *Real Schools*. But German scholars are not prepared to sever scholarship from the ancient classics, to take in their place the modern languages, or translations of the ancient—and the German Government prefers the gymnasium, for every position in its gift is accessible to its graduates. German physicians are not ready for such a change, for out of 163 Medical Societies only three gave their unqualified consent for the admission of students in the Real School to the University Medical Department. There are serious complaints by the German Government respecting the efficiency of their

medical students, and fear lest the change in the standard of admission to the University Medical Department might lower the standard of scholarship. They favor an increase of the study of medicine from four to five years, to secure better preparation for the faculty.

The testimony of that eminent chemist, Prof. A. W. Hoffmann, rector of the University of Berlin, is very important to all liberally educated physicians. He is certainly one of the ablest instructors in that great University, and means what he says, viz.: "That all efforts to find a substitute for the study of the ancient classics, whether in the modern languages, mathematics, or natural sciences, have thus far proved a failure. How often have I heard young men prepared in Real Schools deeply regret that they had not enjoyed the training of a gymnasium. The ideality of academical study, the unselfish devotion to science as science, the free exercise of thought, the condition and result of this devotion recede in proportion as the classic basis, as training for the university, is withdrawn. I have had much occasion to speak of this matter with friends devoted to physics and mathematics, and with scarcely an exception I found they had the same conviction." These are strong words, and merit careful consideration. Similar testimony, as to the value of a classical education, has been given by Liebig, the father of agricultural chemistry, Wolff, Henneberg, Knap, Nobbe, Stohmann, Kühn and others, all of whom are well-known chemists and discoverers in Germany.

3. Does the History of Medicine confirm these Claims?

Are we members of a learned profession? Should we rank with lawyers and theologians on University Catalogues? Have we a scientific profession?

These are important questions in America as well as in Germany. Let us see. Homer mentions two physicians, Machaon and Podalirius, skilful in stanching wounds and relieving pain. The story of Æsculapius proves that as far back as legendary history, men made disease and the healing art a special study, and lived by the practice of their craft; but their observations and theories were worth little, because their philosophy was so crude. The labors of Hippocrates are constantly marred by his identification of effect with cause, restrictions placed on the dissections and undeveloped collateral science, still his work is a monument of unwearied industry and wonderful fidelity to nature. The signs of facts, for the facts themselves, or effects taken for causes, ruined every system of nosology from Hippocrates to Cullen.

There was no sound anatomy or physiology to solve the problems of the diseased system, and not until the *analytical method* of the Alexandrine School pointed to dissection and un-

locked the human frame, that true light revealed the phenomena of disease. Herophilus, their most celebrated teacher, made six hundred dissections, and acquired such distinction that the proverb remains to this day, "To contradict Herophilus is to contradict the Gospel." But the famous fire at Alexandria destroyed his researches with the Library, but not the principles which they discovered, for Philinus, his disciple, left the most important system of early medicine. Philinus urged a return to observation and clinical studies, and was surrounded by a host of observers, among whom was the celebrated Heracides of Tarentum, who first introduced opium into practice.

So far, scientific medicine is confined to a University, Alexandria, with its literary treasures and learned men. Let us pass from the East to the West, from Egypt to Italy. Pliny assures us that the Roman people had been without a physician for six hundred years. In some things the world is not wiser now than at that period. Then people resorted to certain temples, even in the severest epidemics, as now to the shrine of St. Vitus, where the "Faith Cure" had its most numerous disciples as well as victims. St. Ossifyga cared for the growth of bones at Rome, just as St. Ursula now cares for them when dead in the Church of the 11,000 Virgins at Cologne.

In Rome, and at this epoch, appeared the elder Pliny, who collected in his "*Historia Mundi*," all the systems from Hippocrates to his own, and has left in his history many original views and reflections, as evidence of the profound mind of a great naturalist. From Pliny to Galen, the inquiries multiplied exceedingly, because Galen revived the principles of the great physician of Coos, and held undisputed sway in medical matters till the sixteenth century. Devoted to anatomy and physiology, especially the former, his authority became as infallible in medicine as that of Aristotle in philosophy. With Galen, early medicine lost its greatness, and with the downfall of the Roman Empire it retrograded likewise, but during the history of that Empire, so far as progress was made in the principles and practice of our art, it was on a *scientific* basis. Æsculapius was enthroned at Rome, and not at Canossa.

The age of Dante was the period of the renaissance, when science was divorced from superstition and charlatanism. The first modern dissection of the human subject was made by Mondini di Luzzi, towards the close of the sixteenth century, when the tone of the European mind influenced art as well as medicine, but the public authorities censured Mondini, and dissections ceased. In the sixteenth century, Vesalius resumed them, and laid the foundation of modern anatomy. The purity of his intentions and his noble views removed popular prejudice, which enabled Ambrose Paré, first to turn to practical use the labors of his

predecessors, and as surgeon to several European sovereigns, by systematizing the researches of his predecessors, to lay foundations for the structure reared by John Hunter, Dupuytren, Abernethy and Sir Astley Cooper. During the eighteenth and nineteenth centuries such stars of the first magnitude as Morgagni and Scarpa in Italy; Haller, Boerhaave, Heister and Soemmering in Germany; Dupuytren and the illustrious Bichat in France; Cullen and the Hunters in England—all eminent physicians and surgeons, continue the work of scientific research in medicine, and science based on facts and not on theoretic principles, in a field of enquiry commensurate with the three physical kingdoms of nature.

Surely, the Germans have not erred in their estimate of a classical and scientific training for a physician up to the nineteenth century, if the history of our profession means anything in the development of the race.

What shall I say of *our century*, now drawing to a close? How the labors of our predecessors pale before the wonders of the nineteenth century! Physical examinations, chemical tests, microscopical histology, anæsthetics in surgery, have certainly elevated medicine to a science, and its practitioners to the front rank of her votaries, entitled to the respect and gratitude of all enlightened men. Every tissue of the body is under the microscope, all living organisms are the products of elementary cells, so that every difference of structure implies a difference of function. Thus we mount from the simple cells to the marvelous structure, man, the paragon of animals, the beauty of the world. Under the careful studies of the German, Kolliker, the liver is revealed as a complex and beautiful structure, symmetrical in design, with an arrangement of lobules, cells, nerves and blood-vessels, worthy of the warmest admiration, not simply to make bile, but to repair the waste of nerve tissue. No less the eye, when under the microscope, bears the happiest results. The discovery of the retinal expansion of the optic nerve or Jacob's membrane, has wonderfully elucidated the phenomena of vision. Those nerve fibres are specially fitted to the undulations of light. What a change in our theories of color vision! Anæsthetics have robbed surgery of all its cruelty and half its danger, extended its sphere of action, increased the proportion of recoveries after severe wounds and mutilations, and insured the safety of obstetrics. Within fifty years the operation for stone will become obsolete. Small pox is no longer a possible danger to life. Typhoid fever is rarely fatal and typhus is almost unknown, except in the wake of armies or famine. Madness is now a curable disease, and the drugs employed are less loathsome than the disease. Fluid extracts and active principles take the place of nauseating powders and tinctures. The causes of disease

are more thoroughly studied and better understood. From a cold in the head to pulmonary phthisis, from lupus to cancer, Bacillus is the password, no matter what may be the "Grippe," Query. Is the Bacillus the cause or a consequence of the disease? Let that star of the first magnitude now in the zenith at Berlin so guide our wise men, now about to visit him from the East, that we may all have a quick deliverance from the scourge of mankind.

Mr. President and Fellows of the Academy, I thank you for your patient attention. May I ask for your careful consideration?

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AMERICAN MEDICAL ASSOCIATION.

Plan of Organization for a National Medical Association.

WHEREAS, The Medical Convention, held in the city of New York, in May, 1846, have declared it expedient "for the medical profession of the United States to institute a National Medical Association;" and,

Inasmuch as an institution so conducted as to give frequent, united and emphatic expression to the views and aims of the medical profession in this country, must at all times have a beneficial influence, and supply more efficient means than have hitherto been available here for cultivating and advancing medical knowledge; for elevating the standard of medical education; for promoting the usefulness, honor, and interests of the medical profession; for enlightening and directing public opinion in regard to the duties, responsibilities, and requirements of medical men; for exciting and encouraging emulation and concert of action in the profession, and for facilitating and fostering friendly intercourse between those who are engaged in it: therefore, be it

Resolved, In behalf of the medical profession of the United States, that the members of the Medical Convention, held in Philadelphia, in May, 1847, and all others who, in pursuit of the objects above mentioned, are to unite with or succeed them, constitute a National Medical Association; and that for the organization and management of the same, they adopt the following *Regulations*:—¹

I.—TITLE OF THE ASSOCIATION.

This institution shall be known and distinguished by the name and title of "The American Medical Association."

II.—MEMBERS.

The members of this institution shall collectively represent and have cognizance of the common interests of the medical profession in every part of the United States; and shall hold their appointment to membership either as delegates from local institutions, as members by invitation, as permanent members, or members by application.

The *Delegates* shall receive their appointment from permanently organized State medical societies, and such county and district medical societies as are recognized by representation in their respective State societies, and from the medical department of the Army and Navy of the United States, and the Marine Hospital Service of the United States.

Each delegate shall hold his appointment for one year, and until another is appointed to succeed him, and shall participate in all the business and affairs of the Association.

¹ Revised to date.

EDUCATIONAL POSITION OF BERLIN.—There are 5,527 students in attendance upon the different faculties of the University of Berlin, which places it at the head of all the German universities. Throughout Germany there are nearly 30,000 students in attendance at twenty universities.

Each State, county and district medical society, entitled to representation, shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number; *Provided*, however, that the number of delegates from any particular State, Territory, county, city, or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of this Association. The Medical Staffs of the Army and Navy shall be entitled to four delegates each. The Marine Hospital Service of the United States shall be entitled to one delegate.

No individual who shall be under sentence of expulsion or suspension from any State or local medical society of which he may have been a member, or whose name shall have been, for non-payment of dues, dropped from the rolls of the same, shall be received as a delegate to this Association, or be allowed any of the privileges of a member, until he shall have been relieved from the said sentence or disability by such State or local society, or shall have paid up all arrears of membership; nor shall any person not a member and supporter of a local medical society, where such a one exists, be eligible to membership in the American Medical Association.

No one expelled from this Association shall at any time thereafter be received as a delegate or member, unless by a three-fourths vote of the members present at the meeting to which he is sent, or at which he is proposed.

Members by Invitation shall consist of practitioners of reputable standing from sections of the United States not otherwise represented at the meeting. They shall receive their appointment by invitation of the meeting, after an introduction from, and being vouched for by, at least three of the members present, or three of the absent permanent members. They shall hold their connection with the Association until the close of the annual session at which they are received; and shall be entitled to participate in all its affairs, as in the case of delegates, except the right to vote.

The *Permanent Members* shall consist of all those who have served in the capacity of delegates, and of such other members as may receive the appointment by unanimous vote, and shall continue such so long as they remain in good standing in the body from which they were sent as delegates, and comply with the requirements of the By-laws of the Association. Permanent members shall at all times be entitled to attend the meetings, and participate in the affairs of the Association, so long as they shall continue to conform to its regulations, but without the right of voting; and, when not in attendance, they shall be authorized to grant letters of introduction to reputable practitioners of medicine resid-

ing in their vicinity, who may wish to participate in the business of the meeting, as provided for members by invitation.

Members by Application shall consist of such members of the State, County and District Medical Societies entitled to representation in this Association as shall make application for admission, in writing, to the Treasurer, and accompany said application with a certificate of good standing, signed by the President and Secretary of the Society of which they are members, and the amount of the annual fee, five dollars. They shall have their names upon the roll, and have all the rights and privileges accorded to permanent members, and shall retain their membership on the same terms.

Every member elect, prior to the permanent organization of the annual meeting, or before voting on any question after the meeting has been organized, must exhibit his credentials to the proper committee, and sign these regulations, inscribing his name and address in full, specifying in what capacity he attends, and, if a delegate, the title of the institution from which he has received his appointment.

III.—MEETINGS.

The regular meetings of the Association shall be held annually. The place of meeting shall be determined, with the time of meeting for each next successive year, by vote of the Association.

IV.—OFFICERS.

The officers of the Association shall be a President, four Vice-Presidents, one Permanent and one Assistant Secretary, a Treasurer, and Librarian. They shall be nominated by a special committee of one member from each State represented at the meeting, and shall be elected by vote on a general ticket.

Each officer except the Permanent Secretary, shall hold his appointment for one year, and until another is elected to succeed him. The Permanent Secretary shall hold his appointment until removed by death, resignation, or a vote of two-thirds of the members present at a regular annual meeting.

The President and Vice-Presidents shall assume the functions of their respective offices at the beginning of the annual meeting next succeeding their election; all other officers shall enter upon their duties immediately after their election.

The *President* shall preside at the meetings, preserve order and decorum in debate, give a casting vote when necessary, and perform all the other duties that custom and parliamentary usage may require.

The *Vice-Presidents*, when called upon, shall assist the President in the performance of his duties, and during the absence, or at the request

of the President, one of them shall officiate in his place.

The Permanent Secretary shall record the minutes and authenticate the proceedings; give due notice of the time and place of each next ensuing annual meeting; notify all members of committees of their appointment, and of the duties assigned to them; hold correspondence with other permanently organized medical societies, both domestic and foreign; and carefully preserve the archives and unpublished transactions of the Association.

The Assistant Secretary shall aid the Permanent Secretary in recording and authenticating the proceedings of the Association; serve as a member of the Committee of Arrangements, and perform all the duties of Permanent Secretary temporarily whenever that office shall be vacant, either by death, resignation, or removal.

The Treasurer shall have the immediate charge and management of the funds and property of the Association. He shall give to the Board of Trustees bonds for the safe keeping and proper use and disposal of his trust. And through the same Board he shall present his accounts, duly authenticated, at every regular meeting.

The Librarian shall receive and preserve all the property in books, pamphlets, journals, and manuscripts presented to or acquired by the Association, record their titles in a book prepared for the purpose and acknowledge the receipt of the same.

V.—STANDING COMMITTEES.

The Committee of Arrangements shall, if no sufficient reasons prevent, be mainly composed of seven members, of whom the Assistant Secretary shall be one, residing in the place at which the Association is to hold its next annual meeting; and shall be required to provide suitable accommodations for the meeting, to verify and report upon the credentials of membership, to receive and announce all essays and memoirs voluntarily communicated, either by members of the Association, or by others through them, and to determine the order in which such papers are to be read and considered.

The Board of Trustees shall consist of nine members, three of whom shall be elected annually, on the nomination of the Nominating Committee, and shall serve for three years. It shall be the duty of this Board to provide for and superintend the publication and distribution of all such proceedings, transactions, and memoirs of the Association as may be ordered to be published, in such manner as the Association may direct, and in doing this it shall have authority to appoint an editor and such assistants, and determine their salaries, and procure and control such materials as may be necessary for the accomplishment of the work assigned to it. To further facilitate its

work, it shall be the duty of the Secretaries of the Association, and of the several sections during each annual meeting, or as soon thereafter as practicable, to deliver to the Board, or such editor or agent as it shall appoint, all such records of proceedings, reports, addresses, papers and other documents as may have been ordered for publication either in the general sessions or in the sections. All moneys received by the Board of Trustees, or its agents, resulting from the discharge of the duties assigned them, must be paid to the Treasurer of the Association, and all orders on the Treasurer for disbursements of money in any way connected with the work of publication, must be endorsed by the President of the Board of Trustees. It shall be the further duty of the said Board of Trustees to hold the official bond of the Treasurer for the faithful execution of his office, to annually audit and authenticate his accounts, and present a statement of the same in its annual report to the Association, which report shall also specify the character and cost of all the publications for the Association during the year, the number of copies still on hand, and the amount of all other property belonging to the Association, under its control, with such suggestions as it may deem necessary.

VI.—FUNDS AND APPROPRIATIONS.

Funds shall be raised by the Association for meeting its current expenses and awards from year to year, but never with the view of creating a permanent income from investments. Funds may be obtained by an equal assessment of not more than ten dollars annually, on each of the delegates and permanent members; by voluntary contributions for specific objects; and by the sale and disposal of publications, or of works prepared for publication.

The funds may be appropriated for defraying the expenses of the annual meetings, including the necessary expenses of the Permanent Secretary in maintaining the necessary correspondence of the Association; for publication; for enabling the Standing Committees to fulfill their respective duties, conduct their correspondence, and procure the materials necessary for the completion of their stated annual reports; for the encouragement of scientific investigation by prizes and awards of merit; and for defraying the expenses incidental to specific investigations under the instruction of the Association, where such investigations have been accompanied with an order on the Treasurer to supply the funds necessary for carrying them into effect.

VII.—PROVISION FOR AMENDMENT.

No amendment or alteration shall be made in any of these articles, except at the annual meeting next subsequent to that at which such amendment or alteration may have been proposed; and

then only by the voice of three-fourths of all the delegates in attendance.

Provided, however, that when an amendment is properly under consideration, and an amendment is offered thereto, germane to the subject, it shall be in order, and if adopted, shall have the same standing and force as if proposed at the preceding meeting of the Association.

BY-LAWS.

I.—ORDER OF BUSINESS.

The order of business at the annual meetings of the American Medical Association shall at all times be subject to the vote of three-fourths of all the members in attendance; and, until permanently altered, except when for a time suspended, it shall be as follows, namely:

1st. The calling of the meeting to order by the President elected the preceding year, or, in his absence, by one of the Vice-Presidents.

2nd. The report of the Committee of Arrangements on the credentials of members, after the latter have registered their names and addresses, and the titles of the institutions which they represent.

3d. The reception of members by invitation.

4th. The election of permanent members.

5th. The reading of notes from absentees.

6th. The hearing of the annual address of the President.

7th. The reception of the reports of all special committees and voluntary communications, and their reference to the appropriate Sections.

8th. The appointment of the committee of one from each State represented, to nominate officers of the Association, and to fill the standing committees.

9th. The reading and consideration of the reports of the Standing Committees, of Publication, on Prize Essays, and of Chairmen of Sections.

10th. Resolutions introducing new business, and instructions to the permanent committees.

11th. The selection of the next place of meeting.

12th. The report of the Nominating Committee, and the election of officers of the Association.

13th. Reports from the several Sections.

14th. Reading of the minutes by the Secretary.

15th. Unfinished and miscellaneous business.

16th. Adjournment.

II.—SECTIONS.

The general meetings of the Association shall be restricted to the morning sessions; and the afternoon sessions, commencing at three o'clock, shall be devoted to the hearing of reports and papers and their consideration, in the following Sections:—

1. Practical Medicine and Physiology.

2. Obstetrics and Diseases of Women.

3. Surgery and Anatomy.

4. State Medicine.

5. Ophthalmology.

6. Diseases of Children.

7. Dental and Oral Surgery.

8. Medical Jurisprudence and Neurology.

9. Dermatology and Syphilis.

10. Laryngology and Otology.

11. Materia Medica and Pharmacy.

On the second day of each annual meeting each Section shall nominate its own officers to serve for the next ensuing year, their duties to commence with the close of the annual meeting at which they are nominated and to continue until their successors are appointed.

The Section on State Medicine shall be composed of one member from each State, one from the army and one from the navy of the United States, representing, as far as practicable, the State Boards of Health. The officers of this Section to be also designated by the Committee on Nominations.

The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may regard important, and present on the first day of its annual session the same to the Section over which he presides. The reading of such address not to occupy more than forty minutes.

It shall be the duty of every member of the Association who proposes to present a paper or report to any one of the Sections, to forward either the paper, or a *title* indicative of its contents, and its *length*, to the Chairman of the Committee of Arrangements at least one month before the annual meeting at which the paper or report is to be read. It shall also be the duty of the Chairman and Secretary of each Section to communicate the same information to the Chairman of the Committee of Arrangements concerning such papers and reports as may come into their possession or knowledge, for their respective Sections, the same length of time before the annual meeting. And the Committee of Arrangements shall determine the order of reading or presentation of all such papers, and announce the same in the form of a programme for the use of all members attending the annual meeting. Such programme shall also contain the rules specified in the By-laws and Ordinances concerning the consideration and disposal of all papers in the Sections.

No paper shall be read before either of the Sections, the reading of which occupies more than twenty minutes. Such papers shall be referred by the Section to sub-committees specially appointed for their examination. The sub-committees shall be allowed thirty days for such examination; at the end of which time they shall for-

ward the papers to the Board of Trustees, with such recommendation as they may deem proper. The author of such papers, however, may read abstracts before the Section within the allotted twenty minutes. No member shall address the Section more than once upon the same subject, nor speak longer than fifteen minutes without unanimous consent.

All papers presented directly to the Association, and other matters, may, at the discretion of the Association, be referred to the various Sections for their consideration and report.

III.—STANDING COMMITTEES.

The following are the Standing Committees of the Association, to be filled by the Committee on Nominations, and to report at the next annual meeting subsequent to their appointment, namely, Committee of Arrangements, Board of Trustees, and Committee on American Medical Necrology.

The *Board of Trustees* shall append to each volume of the *Transactions* hereafter published, a copy of the Constitution, By-laws and Code of Ethics of the Association. It shall print conspicuously, at the beginning of each volume of the *Transactions* the following disclaimer, namely, The American Medical Association, although formally accepting and publishing the reports of the various standing committees, holds itself wholly irresponsible for the opinions, theories or criticisms therein contained, except when otherwise decided by special resolution.

The *Committee on American Medical Necrology* shall consist of one member for each State and Territory represented in the Association, whose duty it shall be to procure memorials of the eminent and worthy dead among the distinguished physicians of their respective States and Territories, and transmit them to the chairman of this committee on or before the 1st of April of each and every year.

IV.—THE PUBLICATION OF PAPERS AND REPORTS.

No report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Board of Trustees on or before the first day of July. It must also be so prepared as to require no material alteration or addition at the hands of its author.

Authors of papers are required to return their proofs within two weeks after their reception; otherwise they will be passed over and omitted from the volume.

Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association.

The Board of Trustees shall have full discretionary power to omit from the published *Trans-*

actions, in part or in whole, any paper that may be referred to it by the Association, or either of the Sections, unless specially instructed to the contrary by vote of the Association.

V.—ASSESSMENTS.

The sum of five dollars shall be assessed annually, upon each delegate to the sessions of the Association, as well as upon each of its permanent members, whether attending or not, for the purpose of raising a fund to defray necessary expenses. The payment of this sum shall be required of the delegates and members in attendance upon the sessions of the Association previously to their taking their seats and participating in the business of the sessions. Permanent members, not in attendance, shall transmit their dues to the Treasurer.

Any permanent member who shall fail to pay his annual dues for three successive years, unless absent from the country, shall be dropped from the roll of permanent members, after having been notified by the Secretary of the forfeiture of his membership.

VI.—DELEGATES FROM THE MEDICAL STAFFS OF THE ARMY, NAVY, AND MARINE-HOSPITAL SERVICE.

Delegates representing the medical staffs of the United States Army and Navy, shall be appointed by the Chief of the Army and Navy Medical Bureaus, and the U. S. Marine-Hospital Service. The number of delegates so appointed shall be four from the army medical officers, and an equal number from the navy medical officers, and one from the Marine-Hospital Service.

VII.—DELEGATES TO FOREIGN MEDICAL SOCIETIES.

The President shall be authorized annually to appoint delegates to represent this Association at the meetings of the British Medical Association, the American Medical Society at Paris, and such other scientific bodies in Europe or other foreign countries as may be affiliated with us.

VIII.—DUTIES OF MEMBERS.

No one shall be permitted to address the Association, except he shall have first given his name and residence, which shall be distinctly announced from the chair, and the member may be required to go forward and speak from the stand, but not more than ten minutes at one time.

No one appointed on a special committee, who fails to report at the meeting next succeeding the one at which he is appointed, shall be continued on such committee, or appointed on any other, unless a satisfactory excuse is offered.

IX.—CONDITION EXCLUDING REPRESENTATION.

No State or Local Medical Society, or other organized institution, shall be entitled to representation in this Association that has not adopted its Code of Ethics; or that has intentionally vio-

lated or disregarded any article or clause of the same.

X.—OF THE PREVIOUS QUESTION.

When the previous question is demanded, it shall take at least twenty members to second it; and when the main question is put under force of the previous question and negative, the question shall remain under consideration the same as if the previous question had not been enforced.

XI.—JUDICIAL COUNCIL.

A council, consisting of twenty-one members, shall be appointed by the Nominating Committee, whose duty it shall be to take cognizance of, and decide, all questions of an ethical or judicial character that may arise in connection with the Association. Of the twenty-one members of the council first appointed the seven first named on the list shall hold office one year, and the second seven named shall hold office for two years.

With these exceptions the term of office of members of the council shall be three years, seven being appointed by the Nominating Committee annually.

The said council shall organize by choosing a President and Secretary, and shall keep a permanent record of its proceedings. The decisions of said council on all matters referred to it by the Association shall be final, and shall be reported to the Association at the earliest practical moment.

All questions of a personal character, including complaints and protests, and all questions on credentials, shall be referred at once, after the report of the Committee of Arrangements or other presentation, to the *Judicial Council*, and without discussion.

XII.—NEW BUSINESS.

No new business, resolutions by members, etc., shall be introduced at the general session of the Association except on the first and fourth days of meetings.

XIII.—OFFICERS AND COMMITTEES.

In the election of officers and appointment of committees by this Association and its President, they shall be confined to members and delegates present at the meeting, except in the Committee of Arrangements.

XIV.—ADDRESSES.

The Association shall annually elect, on the nomination of the Nominating Committee, three members of the profession, eminent in some of its departments, to deliver addresses in the general session of the next ensuing annual meeting—one on some topic or topics relating to general medicine, another relating to general surgery, and the third relating to public medicine, including under that head, hygiene, sanitation, prophylaxis, education and medical legislation, each of such

addresses not to exceed one hour in its delivery.

The following resolution was adopted at the session of 1888:

That in future, each delegate or permanent member, shall, when he registers, also record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the Secretaries *are, by special resolution*, requested to send to him annually, a corrected list of the membership of their respective Societies.

ORDINANCES.

Resolved, That the several Sections of this Association be requested, in the future, to refer no papers or reports to the Board of Trustees, except such as can be fairly classed under one of the three following heads, namely: 1. Such as may contain and establish *positively* new facts, modes of practice or principles of real value. 2. Such as may contain the results of well devised original experimental researches. 3. Such as present so complete a review of the facts on any particular subject as to enable the writer to deduce therefrom legitimate conclusions of importance.

Resolved, That the several Sections be requested, in the future, to refer all such papers as may be presented to them for examination by this Association, that contain matter of more or less value, and yet cannot be fairly ranked under either of the heads mentioned in the foregoing resolution, back to their authors with the recommendation that they be published in such regular medical periodicals as said authors may select, with the privilege of placing at the head of such papers, "Read to the _____ Section of the American Medical Association on the _____ day of _____ 18 ____" (Vide *Transactions*, Vol. xvi, p. 40.)

Resolved, That, instead of yearly reprinting the list of members of the American Medical Association, the Board of Trustees be instructed to prepare and print in the *Transactions* an alphabetical catalogue triennially, containing a complete list of the Permanent Members, with their names in full, designating their residences, the year of their admission, the offices they have held in the Association, and, in case of death or rejection, the date thereof. (Vide *Transactions*, Vol. xvii, p. 33.)

Resolved, That no report or other paper shall be presented to this Association unless it be so prepared that it can be put at once into the hands of the Permanent Secretary, to be transmitted to the Board of Trustees. (Vide *Transactions*, Vol. xvii, p. 27.)

Resolved, That the Permanent Secretary hereafter and from this date be authorized to draw a

warrant upon the Treasurer for the expenses incurred in his attendance upon each session of the Association, and that the Treasurer is hereby instructed to pay the same. (*Vide Transactions*, Vol. xviii, p. 42.)

Resolved, That the faculties of the several medical colleges of the United States be recommended to announce explicitly in their annual announcements, circulars and advertisements that they will not receive certificates of time of study from irregular practitioners, and that they will not confer the degree upon any one who may acknowledge his intention to practice in accordance with any exclusive system. (*Vide Transactions*, Vol. xix, p. 31.)

Resolved, That those gentlemen who desire to report on special subjects, and will pledge themselves to report at the next meeting, be requested to send their names, and the subjects on which they desire to report to the Permanent Secretary. (*Vide Transactions*, Vol. xix, p. 42.)

Resolved, That hereafter the necessary expenses for rent of hall for general meetings and rooms for Sections to accommodate the annual meetings, and the necessary expenses for cards of membership, be paid out of the treasury of the Association. (*Vide Transactions*, Vol. xix, p. 42.)

Resolved, That each State Medical Society be requested to prepare an annual register of all the regular practitioners of medicine in their respective States, giving the names of the college in which they may have graduated, and date of diploma or license. (*Vide Transactions*, Vol. xx, p. 20.)

Resolved, That this Association recognizes specialties as proper and legitimate fields of labor.

Resolved, That specialists shall be governed by the same rules of professional etiquette as have been laid down for general practitioners.

Resolved, That it shall not be proper for specialists publicly to advertise themselves such, or to assume any title not specially granted by a regularly chartered college.

Resolved, That private handbills addressed to members of the medical profession, or by cards in medical journals, calling the attention of professional brethren to themselves as specialists, be declared in violation of the Code of Ethics of the American Medical Association. (*Vide Transactions*, Vol. xx, p. 28.)

Resolved, That a committee of one be appointed residing at Washington, to render the Librarian of Congress such assistance as the interests of the Association may require. (*Vide Transactions*, Vol. xx, p. 29.)

WHEREAS, The proper construction of Art. IV, Sec. 1, Code of Ethics, A. M. A., having been called for, relative to consultation with irregular practitioners who are graduates of regular schools.

Resolved, That said Art. IV. Sec. 1, Code of

Ethics, excludes all such practitioners from recognition by the regular profession. (*Vide Transactions*, Vol. xx, p. 30.)

Resolved, That if any member fail to reply for more than one year to the circular sent to him by the Board of Trustees he shall forfeit his right to the volume, and it shall revert to the Association, to be sold to any applicant at the current rates. (*Vide Transactions*, Vol. xxi, p. 30.)

Resolved, That the Committee of Arrangements for the next ensuing meeting of this Association, and for all meetings thereafter, be directed to prepare a list of members present on a separate roll, for convenience and accuracy in calling the ayes and nays when the same shall be demanded. (*Vide Transactions*, Vol. xxi, p. 60.)

Resolved, That each year, until otherwise ordered, the President-elect and the Permanent Secretary be directed to appeal in the name of the Association to the authorities of each State where no State Board of Health exists, urging them to establish such boards. (*Vide Transactions*, Vol. xxvi, p. 50.)

Resolved, That the Permanent Secretary is hereby directed annually to report the names of States where boards of health exist, and also of those which decline to establish them; said report to form a part of the annual proceedings of the Association. (*Vide Transactions*, Vol. xxvi, p. 50.)

Resolved, That members of the medical profession who in any way aid or abet the graduation of medical students in irregular or exclusive systems of medicine, are deemed thereby to violate the spirit of the ethics of the American Medical Association. (*Vide Transactions*, Vol. xxvii, p. 48.)

Resolved, 1. That the American Medical Association adopts the International Metric System, and will use it in its Transactions. (*Vide Transactions*, Vol. xxx, p. 44.)

2. Requests that those who present papers at its future meetings employ this system in their communications, or reprints thereof. (*Vide Transactions*, Vol. xxx, p. 44.)

3. Requests the medical boards of the hospitals and dispensaries to adopt the Metric System in prescribing and recording cases; and that the Faculties of the medical and pharmaceutical schools adopt it in their didactic, clinical, or dispensing departments. (*Vide Transactions*, Vol. xxx, p. 44.)

Resolved, That the President and Secretary of this Association are directed to annually petition Congress to enact a law which shall permit every person engaged in a scientific pursuit to import for his own use, free of duty, any one book or instrument appertaining to his special pursuit. (*Vide Transactions*, Vol. xxx, p. 45.)

Resolved, That the above-named officers are further directed to urge the State Medical Soci-

ties and their auxiliary branches to aid this Association in accomplishing this purpose, by petitions to Congress, and by otherwise influencing Congressmen. (Vide *Transactions*, Vol. xxx, p. 45.)

Decision by Judicial Council: A gentleman who is not in affiliation with a County, District, or State Medical Society, where such organizations exist, is *not* entitled to be registered as a permanent member upon the claim of having been a delegate from a body not now entitled to representation in this body. (Vide *Transactions*, Vol. xxx, p. 57.)

Resolved: First, That a committee of five be appointed by the President of the Association, to be called the Standing Committee on "Atmospheric Conditions, and their relations to the prevalence of Diseases."

Second. That that committee be authorized to select such places as will best indicate atmospheric conditions in the more important climatic and sanitary districts of the United States—not less than six, nor more than twelve—and establish therein a means for continuous observation and record of all appreciable conditions of atmosphere, according to the most approved methods, and of the origin and prevalence of all acute diseases.

Third. That the Committee, through their chairman, be authorized to draw upon the Treasurer of this Association for such sums as may be found necessary for the proper execution of the work assigned to it, the aggregate amount not to exceed \$500, during the ensuing year, and that a detailed report of all sums drawn and expenditures made must be presented at the next annual meeting of the Association. (Vide *Transactions*, Vol. xxxii, p. 35.)

Resolved: That the regular graduates of such dental and oral schools and colleges as require of their students a standard of preliminary or general education, and a term of professional study equal to the best class of medical colleges of this country, and embrace in this curriculum all the fundamental branches of medicine, differing chiefly by substituting practical and clinical instruction in dental and oral medicine and surgery, in place of practical and clinical instruction in general medicine and surgery, be recognized as members of the regular profession of medicine, and eligible to membership in this Association on the same conditions and subject to the same regulations as other members. (See *JOURNAL OF THE AMER. MED. ASSOC'N*, Vol. viii, p. 722.)

Whereas, It has been the unswerving policy of the Trustees for the publication of *THE JOURNAL*, to enlarge and increase the value of *THE JOURNAL* as fast as the income of the Association will permit, therefore,

Resolved, That said Board of Trustees be a Standing Committee on Finance to which all

propositions for the appropriation of money, made hereafter, shall be referred and reported upon before final action on the same by the Association. (See *JOURNAL OF THE AMER. MED. ASSOC'N*, Vol. viii, p. 722, 1887.)

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

PROFESSOR LIEBREICH'S REMEDY FOR TUBERCULOSIS.—LIEBREICH has given to the Berlin Medical Society an account of his newly proposed remedy which consists of cantharidate of potash—being 0.2 gram of pure cantharidin and 0.4 gram of potassic hydrate—in 20 cubic centimetres of water. He uses the remedy by subcutaneous injections, beginning with not more than one-fiftieth part of a decimilligram of the solution. The dose is gradually increased until one or two decimilligrams have been attained; it is likely that six decimilligrams will be found to be the maximum dose. The drug appears to affect diseased tissues only, and it may be applicable to other affections besides tuberculosis. Drs. Heymann and B. Fraenkel have made the clinical experiments thus far reported. They have no cures to report, but they have been agreeably impressed by the measure of amelioration in some of their cases and the absence of any untoward consequences. It has been found that expectoration has been increased, an effect which, as Liebreich infers, is due to the specific property of cantharidin to excite serous exudation from capillary vessels, especially in those that have already been the subject of morbid irritation.

Medicine.

ARTHRITIS BLENNORRHOICA.—DEUTSCHMANN (*Archiv für Ophthalmologie*) has observed a child three weeks old, with ophthalmia neonatorum, that later presented redness and swelling of the knee-joint. Gonococci were found in the secretion of the conjunctival sack in large numbers, and also in smaller proportion in a portion of the joint secretion obtained by exploratory puncture. The writer is of the opinion that the cocci were carried directly by the blood or lymphatics, from the conjunctival sack to the joint.

LEAD POISONING TREATED BY IODIDE OF IRON.—The following practical suggestion in *The Lancet*, for February 14, is quoted from a medical journal of Lille, full title not given, regarding the treatment of workmen in white-lead factories, who suffer from lead-poisoning. It is stated by M. Lavrand that he has found the iodide of iron, in the form of pills as prescribed in the French Codex, very efficacious in the above named condition. Sometimes he gives these pills

alone, at other times he combines the iron with the phosphide of zinc. Under this treatment, workmen who have already begun to show signs of plumbism were enabled to continue their occupation; their general health also improved, and the amount of hæmoglobin was increased.

Obstetrics and Diseases of Women.

OVARIOTOMY DURING PREGNANCY.—The *British Medical Journal* contains an editorial comment on the report of ENGSTROM, of Helsingfors, concerning seven cases of the above named operation, published in the *Annales de Gynécologie* for November, 1890. In two of these cases the ovariectomy was performed during the second month, while the other five ranged between the third and seventh months of gestation. All seven patients survived the operation, and with a single exception all went on their time of accouchment, giving birth to living children. In the exceptional case abortion occurred at the third month, and it is stated that she had aborted three times previously, early in gestation. In the course of the operation in this case the uterus was wounded, as the tumor was sessile. For some years past, pregnancy has not been held by ovariectomists to be a contra-indication to abdominal operations, since it has been found that such operations are not only not necessarily fatal, and that they do not of necessity result in abortion. In some cases there have been removed successfully cysts of large size or large solid tumors, the very gravity of the ovarian disease having been the incentive to the surgeon to undertake the operation, in order that by so doing the pregnant uterus might be liberated from its ovarian complication. On the other hand, a small tumor has been regarded as an indication to operation, since the progress of uterine evolution in pregnancy may involve a torsion of the ovarian pedicle and all its perilous sequels.

As to the method of operation in these cases, it is advised that the incision should be made high, and begin near the umbilicus, especially if the tumor lies high, so as to avoid as far as possible any excessive traction on the pedicle of the tumor. The uterus should be exposed as little as possible during the operation, since atmospheric contact is often an excitant to uterine contraction. A warm sponge should be made to cover the exposed surface during the time of the tumor's extraction. After the operation, a carefully adjusted bandage will ordinarily secure the healing abdominal wound against damage during the subsequent stages of gestation. Engstrom favors the removal of an ovarian complication of pregnancy whenever the diagnosis becomes clear, and he quotes the experience of Jetter to the effect that the tumor, if left alone, is liable to become a serious source of danger. Some of the worst cases of torsion of the pedicle have oc-

curred during pregnancy, and the fœtus is in especial danger, not less than 48 per cent. perishing, either by a premature arrest of pregnancy or by accident during parturition. The statistics obtained by Engstrom in regard to the results of operation in these cases appear to show that not more than 20 per cent. was attended by premature delivery; and in some of these cases there was a wounding of the uterus in the course of the operation—and where this complication arises the presumption that the uterus will be evacuated is almost inevitable. It is not, of course, claimed that ovariectomy can be practiced in all these cases, as for example, in those patients where the tumor is large and lies low, occupying the pelvic cavity, and the uterus has already developed to a considerable size. In one such case, Engstrom induced labor at the seventh month, and afterwards removed the tumor.

Pathology.

SCARLATINAL CIRRHOSIS.—DR. SAUNDBY, of Birmingham, in the *British Medical Journal*, December 27, treats of some of the rarer forms of hepatic cirrhosis, such as the diabetic, rachitic and scarlatinal varieties. In regard to the last named variety, he thinks that a decidedly practical interest may be involved in it as a possible cause of those not very uncommon cases of cirrhosis met with at the post-mortem table in young children. Scarlatinal cirrhosis may be said to be known only to the pathologists, who have found it in the bodies of persons dead from the sequelæ of scarlet fever. The liver, in these cases, presents no abnormal change that can be recognized by the naked eye, but the microscope shows commencing new formation of fibrous tissue in the portal canals, fissures and spaces.

Ophthalmology.

PANOPHTHALMITIS.—DR. VÉNIDÈS, of Smyrna, (*Journal de Médecine de Paris*), Feb. 1, 1891), claims that early operative interference should be insisted upon in all these cases. He reports one case of evisceration in a child a few weeks old, that was followed by recovery in a case apparently hopeless.

In adults he regards enucleation as the preferable procedure, while in children he thinks evisceration should be employed. He altogether rejects sections of the optic nerve as it leaves a foyer of infection, that may lead to meningitis.

CORTICAL BLINDNESS.—FÖRSTER (*Archiv für Ophthalmologie*, xxvi, 1) offers the following conclusions from his observations: 1. The deviation of the line of demarcation toward the defective side, so often met with in homonymous hemianopsia, does not depend upon a mingling of the elements of both optic tracts in the retina, but upon the favorable vascular conditions of the point of sharpest perception in the occipital cor-

tex. 2. Bilateral hemianopsia is not necessarily connected with complete loss of function in both halves of the visual fields of both eyes. 3. The cortex of the occipital lobe governs the topographical ideas or conceptions, whether acquired by the sense of sight or the sense of touch, or by the consciousness of effected muscular movements, or by descriptions. If these portions of the brain become diseased, the power to grasp or to reproduce topographical conceptions is lost. 4. For color distinction, it is not enough that, with complete integrity of the retina, a small portion of the cortical region should be intact in its functions. The power to distinguish color is much more readily lost than the power to distinguish the shape of small letters, when the nutrition of the cortical elements is disturbed. 5. Destruction of the cortex in the occipital lobes does not produce atrophy of the optic nerves.—*N. Y. Medical Journal*.

DETERMINATION OF REFRACTION.—SCHWEIGER uses the phrase "illumination test" to describe the process of retinoscopy, or keratoscopy, or coreoscopy, because its essential purpose is to determine the optical value of the displacement of the illuminated field in the fundus of the eye, by revolving the mirror upon its axis. The test is of special value in the determination of strabismus.

Bacteriology.

TYPHOID AND PSEUDO-TYPHOID BACILLI IN RIVER WATER.—DR. CASSEDEBAT (*Annales de l'Institut Pasteur*, No. 10, October, 1890), following up Rietsch's work on the river waters of Marseilles, gives the result of an examination of seventy specimens of water from which 250 cultivations were made, with a view of determining whether the Eberth bacillus is to be found in the waters of the Durance which supply a part of the city where typhoid fever is endemic and often epidemic. In no case was he successful in finding the Eberth bacillus, but he was able to separate three bacilli—"pseudo-typhoid bacilli"—which resemble the typhoid bacillus in many respects; like it, they can all withstand the action of pretty strong carbolic acid. They all present clear spaces or deeply stained masses, which might readily be taken for spores; but they and the true typhoid bacillus containing these bodies are all killed at a temperature of a little over 45° C. They stain equally badly by Gram's method. They have a lateral and oscillatory motion as well as the forward motion. The plate cultivations are so much alike that unless all four can be seen together it is difficult to distinguish one from the other. On potatoes, in broth, and in milk, they are alike, except that they develop with different degrees of rapidity and vary somewhat as regards the alkalinity and acidity of their products at the end of about thirty days, and also as to the degree and time of appearance of the

turbidity produced in broth. There are differences, however, to be observed in these organisms grown in broth or milk to which small quantities of the various aniline staining reagents have been added. The ordinary cultivation methods are sufficient to distinguish these four forms from ten others (a list of which is given in the paper) for which the typhoid bacillus has at times been mistaken. None of the pseudo forms are quite so toxic to white mice as the true form, and one of them is quite innocuous. Although Cassedebart was not able to find the true form in water taken from the water supply which was most open to contamination, he found that this was not because bacilli could not live in water, as in distilled water, to which a cultivation had been purposely added, he could easily distinguish its presence at the end of forty-four days, and when added along with half-a-dozen other forms he could find them at the end of seventeen days. He comes to the conclusion, therefore, that the true typhoid bacillus does not occur in water so frequently as is sometimes represented, and that one or other of the forms of pseudo-typhoid bacilli has in certain cases been mistaken for it.—*British Medical Journal*.

MEDIA FOR CULTIVATION OF TUBERCLE BACILLUS.—SIR HUGH BEEVOR, at a recent meeting of the Pathological Society of London, read a note on "Media for Cultivation of the Tubercle Bacillus." The results he had obtained showed how diverse might be the media that could be employed, and how wide the variations of temperature in which the bacilli would grow. His observations on potato cultivations agreed with those of other observers—that the growth was very slow, there being from twenty days to a month before the first sign of growth appeared. It was stated that cultivations on the potato for three generations did not diminish the virulence of the organism. He found that the bacilli grew in broth to which glycerine had been added at a temperature lower than they did on potato or in glycerine agar-agar, and he showed tubes which had been kept at a temperature not exceeding 60° F. Bacilli cultivated in glycerine agar-agar to which corrosive sublimate in the proportion of 1 in 200,000 had been added were hindered slightly in their growth. This proportion of perchloride when compared with the average body weight of a man equalled from five to six grains. The demonstration of the wide range of temperature at which the organisms would grow was interesting in suggesting that their habitat was probably wider than had been supposed. Dr. Crookshank said that the paper had involved a very great amount of labor, the growths being very slow and requiring constant watching. The results of inoculation of animals with these subcultures when published would prove of great interest.

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THE ABUSE OF THE FOOT.

This humble member may be likened, mechanically, to an arch of five single boulders of unequal size. The abutments are the calcaneus on one side and the metatarsi on the other, and the thrust which the load on the astragalus exerts on these two points is equalized by the plantar muscles and fascia. As a matter of fact, like the triangular bridge at Croyland, the foot has more than two points of support. The posterior haunch of the arch of the foot is the calcaneus alone, but the anterior haunch divides first into two, then into four, and then into five branches. Not only does the load on this arch vary from moment to moment, but almost every *voussoir* is subject to strains in many directions from tendons or muscles attached to it. The resultant of these varying factors is a living equilibrated polygon, a living arch.

In every movement of the knee there is a corresponding change in this subtle arch, as may be demonstrated by the reader by crossing one leg over his knee. To go a little further, changes in the position of the body in any direction are followed by related changes in the form of the foot. It is not only modified in its form by momentary exercise, but its growth and development follow the needs of the body which it supports. To reverse the comparison, the supple, graceful foot makes healthful exercise and graceful activity a possibility. The undeveloped or unhealthy foot is a cause of bodily and mental disease, as we shall attempt to show.

The anthropomorphia and children, in walking,

turn the outer edge of the sole downward, their feet being better adapted to climbing. In the untrammelled foot of the youth the hallux is quite opposible, and the whole foot is muscular and expressive. This expressiveness and sympathy with the ground, we sometimes see in bathers and in base-ball players, whose feet are properly dressed. It is manifested in a coördination of muscular action, which, beginning in the contact of the feet with the earth, is reflected up through all the muscles of the body to the face.

Unfortunately, our civilization is in the prohibitive stage. The feet of our children are encased at an early age in unyielding boxes. The muscles of the sole are arrested in their development, and the subtle foot is made into an unyielding stump. The circulation in the extremity is impeded during half the day, and during the time when it is called into greatest use. The ligaments and bones fail to develop symmetrically from restrained function and inadequate nutrition. As a result, when the burdens and emergencies of life fall upon the unfortunate victim of civilization, sprains and dislocations are of frequent occurrence. Nor is the arrest of development noticed in the plantar muscles only; it is, on the contrary, felt in all those muscles of locomotion which are called into play in graceful walking, and are unused in stumping about on the stilts fashion prescribes. Especially is the *tibialis porticus* undeveloped, and as the load on the astragalus increases with the weight of the body, the resultant of all the forces on the bones of the foot determines "a joint of rupture." This is more often brought about by the coincident stretching of the plantar fasciæ, supporting the arch, by the use of shoes which bring them in contact with the soffit, or under surface of the arch. As soon as the shoes grow old, or when they are exchanged for loose, flexible slippers, the plantar fasciæ drop to a straight line again, and the abutments of the arch separate so far that a joint of fracture appears, usually at the top of the arch. Thus results that most serious and refractory condition called flat foot.

It must not be supposed that flat foot is to be applied to those conditions only in which the plantar arch is wholly collapsed. Almost as painful conditions are to be observed where the plantar fasciæ have been stretched only enough to allow all or most of the strain to come on the ligaments

of the joints. This strain gives rise to a traumatic inflammatory process, which has been termed by GOSSELIN "tarsalgia" of the young adults. It results in a muscular immobilization of the foot on account of the pain. Then follows, as a consequence of the vascularization of the bones, a melting together of the joint surfaces, and, at last, bony union in the segments of the arch. This process requires years of suffering.

The method which prevails in foot-wear is responsible for this fearful condition, and it is aggravated by the habit which prevails in schools of having children stand in classes for a long time. Shopkeepers, and bookkeepers, and mechanics who have to stand long in tight shoes, are apt to acquire the condition. Among dentists it is easily noticed in one foot more than the other. The diagnosis is made by the symptoms, by the form of the foot, and by the track which the bare foot makes on paper.

The treatment is mechanical and preventive. The former may be read in the literature, but we should like to call attention to the latter for the benefit of posterity. Children should not wear our box shoes, but a flexible, loose, moccasin-like slipper with no heel. The shoes of young people should have added a stiff heel and a stiff half-sole, nothing more. The constriction of the ankle and instep should be avoided, because it results in interference with the nutrition of the foot.

So small a matter can hardly receive too much attention when we see how necessary are sound feet to exercise, health and happiness. In the fierce struggle for existence which is now upon our race, survival will depend on the application of intelligent attention to little matters. The prejudice of custom and fashion ought not to taboo the scientific discussion of any subject, not the least important of which, is the normal development of the foot.

IS CANCER A PARASITIC DISEASE?

The analogy, in many respects, of the malignant tumors to those infective diseases, such as tuberculosis and leprosy, which have been shown to be due to the presence of microorganisms, has naturally suggested to pathologists the possibility of a similar cause, and in 1887 SCHEUERLEN, published an account of a bacillus which he had found in cancers, and which he believed to be

the *materies morbi*. Similar observations have since been published by others, but his views do not seem to have met with very wide acceptance. More recently, attention has been called to other bodies occurring in cancerous tumors, which have been thought to belong to the lowest order of animal life. DARIER, in 1889, described a parasite occurring in Paget's disease of the nipple, which he believed to be a coccidium—a member of the order of sporozoa. ALBARRAN, THOMA, WICKHAM and SJOBRING have since then reported observations of the same kind, although THOMA does not commit himself as to the nature of the organism. Finally, RUSSELL has published in the *British Medical Journal*, an account of what seem to have been very painstaking investigations on what he considers a characteristic organism of cancer. He demonstrates it by staining the sections with fuchsin, decolorizing in water and alcohol, and then staining with iodine green for contrast. The bodies in question retain the fuchsin stain, which is removed from the other tissues. They are minute, spherical bodies, surrounded in many cases, by a transparent capsule, and apparently propagating both by spores and buds. RUSSELL, although he believes them to be identical with some, at least, of the organisms described by previous observers, is disposed to think them of vegetable nature, belonging to the sprouting fungi, of which the yeast plant is the most familiar example.

They were found in forty-three out of forty-five cases of cancer of different organs, often in great numbers. In non-cancerous tissues they were found five times in over fifty cases. In three of these, owing to the presence of ulcerating surfaces, the author thinks there was a probability of infection, which might ultimately have developed the cancerous character. Of the other two, one was an adenoma of the breast, the other a gumma of the meninges.

DR. RUSSELL's conclusions have been called in question in various quarters. EDINGTON considers the bodies described to be cells in a condition of hyaline degeneration, and gives drawings which seem to tend to confirm this view. CATTLE finds that bodies presenting much the appearance of those described and figured by RUSSELL may be produced by the presence in the staining solution of minute drops of the aniline

used in its preparation. On the whole, at the present time, the probabilities seem rather against the parasitic nature of the bodies in question. A theoretical objection to any parasitic hypothesis might be raised from the fact that, although carcinomata usually resemble, in their histological structure, the epithelium of the tissue in which they originate, metastatic deposits develop with the same structure as the original tumor. This would appear to favor the view that the infecting elements are the cells of the tumor rather than a foreign organism. In view of the doubt as to the interpretation to be put on the appearances, cultivation experiments seem desirable.

SURGERY OF THE GALL BLADDER.

SIR SPENCER WELLS, in his Bradshaw lecture, recently published, presents a review of the status of modern abdominal surgery, in the course of which he refers to the operations that are now done on the liver and gall bladder. He admits that many successful cases are on record of removal of gall stones and subsequent closure of the gall bladder by sutures, as well as of fixing it to the abdominal wall and forming a fistulous opening, but he is strong in his opinion, expressed first about five years ago, that an excision of the gall bladder, or cholecystectomy, is the preferable practice. He says that he can almost foresee that the general rule for future surgeons will be to expose the gall bladder, empty it with a syringe, raise the liver, protect the stomach and intestines by sponges, tie the cystic duct, with two ligatures, divide it between them, separate the gall bladder from the liver by knife or scissors, and then close the abdominal wound.

RESUSCITATIVE EFFORTS IN THE NEW-BORN.

When it is stated by an authority of eminence that, "I believe the attitude of the profession, in general, is one of incredulity, as regards the efficacy of the means at our disposal to restore the life of children in the more desperate cases of asphyxia. In my experience it is the usual procedure to spank the child, to immerse it in hot and cold water, and then to wrap it in warm clothes and place it by the fire to die. Yet the object of medical practice is to save life, and for my part I regard the rescuing of a new-born infant from impending death to be as distinctly a

professional triumph as the saving of life by ovariectomy, by Caesarian section, or by the operation for appendicitis," it becomes the bounden duty of the profession to turn for a moment to a due consideration of the statement, and a thought—or more than thought—of the real possibilities of reducing the number of still-births. We can scarcely agree with the author in believing that the resuscitation of the still-born is to be regarded as an achievement of equal greatness as the conserving of a *developed* life by the surgical procedures above named; yet the importance of rescuing an infant life—where two lives are not in immediate peril—is not to be determined by a comparison. It is clear that if well-directed and patiently-continued efforts will restore life in a goodly number of still-births, then the professional course to pursue admits of no discussion, but does call for more elucidation, a wider and deeper interest, and a continued investigation with a view of both limiting the known causes of still-births, and the perfection of those methods will the more readily insure the return of viability to the one whose spark of life was supposed to have departed.

EDITORIAL NOTES.

CURIOUS SPELLING.—The *Albany Medical Annals* prints a list, received from one of the governmental departments at Washington, showing 169 ways in which the word "pterygium" was spelled—157 attempts in the singular, and 12 attempts in the plural form of the word—in reports to the department from "boards" consisting of three graduates in medicine.

EXTREME ANTISEPTIC VIEWS OF LEOPOLD.—At Prof. Leopold's obstetrical *klinik* but one vaginal examination is made—except in pathological cases—and the examiner must first pass through a veritable antiseptic mill. First, the operator must have a general bath and fresh clothing, then a cleansing, rubbing and scrubbing, with brush, soap and water, of the hands and arms for a period of five minutes—being accurately timed during the operation. The follows a brushing for three minutes with a sublimate solution 1:2,000. Everything is then removed and the process of brushing and cleansing is again repeated, this time with a 1:1,000 sublimate solution. After this the hands are to be kept im-

mersed in the antiseptic solution until the patient is ready, when *one* finger may be quickly passed into the vagina. Prof. Leopold really deprecates *any* vaginal examination in normal labor, giving it out that, "The ideal childbeds are those in which no vaginal examinations have been made."

TYPHOID FEVER GERMS IN MILK AND WATER SUPPLY.—Two very interesting and professionally instructive examples of the communication of typhoid fever through contaminated milk and water have lately been added to the record we already have along this line of research. In both instances the outbreak was quite widespread throughout the given district, and careful investigation clearly brought out the exact source of the contagion, and the means of its dissemination. One point appears to be quite certainly indicated by these recurring examples of the spread of this fever, viz., that in typhoid fever the question of a physical resistance to the influence of the poison does not play so important a part as may be the case with other affections. In other words, the essential principle of typhoid does not seem to be a more or less constant factor of our environment; therefore, when it is forced within the circle of extrinsic influences any resisting power is insufficient to its overthrow.

BIRTH-LIST OF CHICAGO.—The completed returns for 1890 place the total number of births at 20,878; number of males born 9,813; number of females 9,452; number of twins 221; and one case of triplets. This proportion of twin and triplet births does not agree with that observed in foreign countries. It is stated that the proportion of triplet births in Saxony is as 1:1,000, in Russia as 1:4,054, in Ireland as 1:4,995, and in England as 1:6,720.

A NEW USE FOR OLD BARRACKS.—Application has been made to President Harrison for the appointment of a commission to visit the abandoned army posts of Southern Colorado and Northern New Mexico with the view of selecting the best site for a National Retreat for Consumptives. It is claimed that the climate of the sections mentioned is probably the most favorable we have for those afflicted with serious lung troubles.

GOLD AND MANGANESE IN TUBERCULOSIS.—Dr. John Blake White read a paper upon the use

of gold and manganese, subcutaneously, before the Medical Section of the N. Y. Academy of Medicine, February 17th. While the writer does not claim any specific action for this method of treatment, yet—as with Drs. Shurly and Gibbs—the results have been very promising in a number of cases. Marked improvement has occurred in cases having detailed histories of phthisis. A number of physicians spoke upon this occasion of having observed the good effects mentioned by the author, and upheld the moderate claims put forth. A further outcome is awaited.

RESULTS OF INTUBATION OF THE LARYNX.—Dr. J. Mount Bleyer, of New York City, gives in the *Archives of Pediatrics* an analysis of five hundred and twelve cases of intubation with the following results: "Out of 251 cases of children under three years of age, there were 73 recoveries, and in 260 cases three years of age and over, there were 115 recoveries; total, 189 cases out of 512 operated on." The causes of death are given throughout. The greatest number died from sepsis (39), broncho-pneumonia (40), pneumonia (41), diphtheritic bronchitis (67), bronchitis (45), heart failure (21), exhaustion (20), double pneumonia (16), and membranous croup (12).

MEDICAL ITEMS.

PROGRESS OF STATE MEDICINE.—A Bacteriological Laboratory has been established in connection with the Ontario Board of Health, with Dr. McKenzie in charge.

A POOR FIELD.—Scott County, Kansas, has but one physician, and he is now compelled to leave because of the following conditions: but one natural death has occurred during the past year; obstetrical cases and accidents happen but infrequently; and the atmosphere is so pure, and the people so generally healthy, that even an ordinary living cannot be made by one practicing the healing art. The population of the county is given at 1,260.

HANDY SURGICAL DRESSINGS.—Dr. Clinton B. Herrick (*N. Y. Med. Jour.*), in a paper on "Railroad Surgery" advises that each "caboose" and baggage car carry a packet containing splints and antiseptic dressings of a simple nature, and so labeled that any man of ordinary intelligence would be able to apply them in case of accident. He argues that it would render the condition of

the injured more comfortable, and his wounds less liable to become septic, until the aid of a surgeon could be had.

REPORTS OF THE ILLINOIS STATE BOARD OF HEALTH.—The medical press generally appear to appreciate the leading position taken by the Illinois State Board of Health in the matter of a higher standard of medical education. The *Boston Medical and Surgical Journal* says: "These publications of the Illinois State Board are an important factor in the gradual improvement which is taking place in the medical colleges."

THE VIRCHOW TESTIMONIAL is assuming large proportions. The seventieth birthday anniversary of this great man occurs on October 13, 1891. The form the testimonial is taking seems to be wise and enduring, viz., a large gold portrait medal to be presented to Professor Virchow himself, while bronze replicas of the same will be given to members of his family, and to a certain number of scientific institutions.

THE CONSTANT BACTERIA OF MILK.—Over forty different varieties of bacteria have been isolated from a specimen of normal milk. They are grouped into classes, and their varied actions produce the changes ordinarily taking place in milk, as well as the extraordinary chemical effects produced under peculiar and unusual circumstances. It is not gainsaid, however, that "foreign" bacteria are not concerned in the uncommon chemical changes.

SUMMER SCHOOL OF MEDICINE.—The Medical Department of the University of Virginia has decided upon the establishment of a summer session, beginning July 13, and continuing two months.

JEFFERSON COLLEGE'S NEW SURGEON.—At a meeting of the faculty of Jefferson Medical College on March 9, H. Augustus Wilson, M.D., was elected Lecturer on Orthopedics in the Jefferson Medical College, and surgeon in charge of the Orthopedic Department of Jefferson Medical College Hospital, vice O. H. Allis, M.D., resigned. Dr. Wilson is professor of General and Orthopedic Surgery in the Philadelphia Polyclinic and College for Graduates in Medicine, surgeon and medical director to the Polyclinic Hospital, lecturer on Orthopedic Surgery in the Woman's Medical College, and was formerly

pathologist to the Presbyterian Hospital, and one of the surgeons at St. Mary's Hospital. He is a fellow of the College of Physicians, and of the Philadelphia Academy of Surgery, member of the Philadelphia County Medical Society, and the Medical Society of the State of Pennsylvania.

WOMEN PHARMACISTS IN NEW YORK.—It is stated that there are over one hundred women pharmacists in New York City, not one of whom, however, maintains an independent business.

TUBES FOR KOCHINE.—An order has been placed with a German firm of glass manufacturers for one million tubes of particular form and extra quality of glass, to be used for the general distribution of the now famous "lymph."

ST. LOUIS MEDICAL SCHOOLS.—About 280 diplomas will be given out in St. Louis this month.

A WOMAN'S HOSPITAL FOR MEMPHIS.—A Woman's Hospital Association has been organized under the laws of the State of Tennessee, the object of which is the erection of a properly-equipped hospital at Memphis for the treatment of deserving poor women and children.

MEDICAL TRAINING FOR WOMEN.—Official notice has been given of the admission of women to the Edinburgh Royal Infirmary, under certain conditions which are embraced under six different headings.

INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.—The seventh meeting under this title will be held in London on August 10-17, with the Prince of Wales as president.

TENTH GERMAN CONGRESS FOR INTERNAL MEDICINE is to be held in Berlin immediately following the Surgical Congress, or from April 6-9. Professor Leyden, of Berlin, will be president. Very interesting discussions will take place, prominent among which, of course, will be the Koch treatment.

SPRING IS WITH US.—March 2, the Medical Department of the University of Louisville conferred the degree of M.D. upon one hundred and fifty candidates.

THE LIBRARY OF THE NEW YORK STATE MEDICAL ASSOCIATION now contains about 8,000 volumes, and 5,000 pamphlets.

TOPICS OF THE WEEK.

CANTHARIDINATE OF POTASH IN TUBERCULOSIS.

Last week's meeting of the Berliner Medizinische Gesellschaft was of exceptional interest. Every place in the hall was filled in expectation of Professor Liebreich's address on his new remedy for tuberculosis. The following is an abstract of the address, some of the principal points being given in the Professor's own words. He began by saying that, though it was not his custom to publish a research the results of which he had not investigated in detail, he felt obliged, by the special circumstances of the case, to do so in this instance.

He gave an account of the principles that had guided him in this and similar researches. Years ago, in his first address on chloral hydrate, he had already pointed out that, in considering a substance, it is of the greatest importance to form a notion of the atomic grouping in the molecule. The observation of this principle led to the discovery of a number of efficacious remedies—for instance, salicylic acid and salicylate of soda. "How long substances can remain unemployed is shown by the example of chloral hydrate, the therapeutic qualities of which were unknown for thirty-seven years after its discovery by Justus von Liebig."

But it would be onerous to be led only by the above principle in research. An illustration of a different method is the discovery of lanolin, by which ointment therapeutics, which had sunk almost into contempt, were raised to a scientific basis. "Then again—and this we owe to Koch—disinfectants were made the objects of inquiry. From the beginning I expressed my opinion that all those substances that exercise a deleterious influence on the lowest organisms outside the body must be inefficacious when introduced into living tissue. In continuation of my former chloral researches, I was able to show, in connection with the 'dead spaces' in chemical reactions that the reaction that takes place in the cell is very different from that which takes place outside of it."

Then, again, Pasteur's theory that bacteria are destroyed by their own products of metabolism was followed up; but the extremely toxic quality of these products has hitherto formed a hindrance to their efficacious therapeutic action. It is to be hoped, however, that the attempts to extract efficacious bactericidal substances from the products of metabolism of the bacteria may yet be attended with success. At present, treatment by attenuated bacterial cultivations is forming the subject of many experiments, but this has no direct relation to pharmacodynamic investigations.

Professor Liebreich then turned to his experiments with local anesthetics, named by him *anæsthesia dolorosa*, because though they produce local anæsthesia, the injection itself is painful. In the course of investigations with these bodies, it became clear that their effect was not due to chemical action, as in the case of chloral hydrate, but to purely physical causes. It was while engaged in these researches that Professor Liebreich first saw lupus cases which were being treated by tuberculin, and at once formed the opinion that the local action must

be due to a substance, whatever its origin, similar in action to those known under the name of "acria." Upon this the speaker's experiments with cantharidin (the active principle of the Spanish fly) were begun. The Spanish fly has been used occasionally in therapeutics since the time of Hippocrates; Pliny mentions it. In later times it occurs in France and Italy under the names of "pastilles galantes" and "diabolini," but its effect has always been uncertain, often dangerous, owing to the impossibility of dosing the active principle with any accuracy.

It was Robiquet who first extracted the active principle, cantharidin, as a chemically pure crystalline substance, which can be weighed and dosed with exquisite accuracy. Its toxic qualities, and especially its irritating action on the kidneys and urino-genital apparatus are well known, and have been described by Cornil, Ida Eliaschoff, and others. When cantharidin is taken internally serum is exuded from the capillaries, not only of the kidneys, but also of the lungs and of other organs, as has been proved by the experiments of the speaker. This is the characteristic action of cantharidin. According to the speaker's theory, the irritability of the capillaries varies in the different parts of the organism. He assumes that an irritated condition of the capillaries favors the process of exudation. Thus a dose of cantharidin, too small to exercise a toxic action on healthy capillaries, will produce exudation in inflamed capillaries. The exudation of serum in tissue may act in two ways, 1, by nourishing the cells and bringing back to their normal condition badly nourished cells; and 2, by the disinfecting action of the serum the affected spot.

In his experiments, which he began at the Augusta Hospital, the speaker made use of a solution containing cantharidinate of potash. The maximum dose was 6 decimilligrams, the usual dose being from 1 to 2 decimilligrams. "If it can be proved that in cantharidin we possess a means of producing an increased secretion of serum at any one spot, we may succeed in concentrating at this spot efficacious substances, which, under ordinary circumstances, do not easily find their way there. We know substances that circulate in, and are decomposed by the blood, but which only with difficulty pass through the capillaries. But if we know that at an affected spot the exudation from the capillaries is facilitated, we can imagine that a larger quantity of an efficacious substance may find its way to this spot, thus strengthening the otherwise feeble disinfecting power of the serum. It seems to me not unlikely that such a combination of two remedies might possibly lead to a new therapeutic method. As regards practical application, special attention should be paid to the kidneys. It is clear that this treatment should not be applied where there is disease of the kidneys. I should advise doses of 1 decimilligram to begin with, followed by an experimental increase to 2 decimilligrams. It is as well to let a day elapse between the injections."

On the conclusion of the address Dr. Heymann and Professor B. Fraenkel exhibited cases treated by cantharidinate of potash, which showed marked and in some cases surprising improvement. Berlin Correspondent.—*British Medical Journal*.

TEMPERANCE MEDICAL MEN IN ENGLAND.

Whatever may be said of total abstinents from alcohol, it can never be alleged truthfully against them that their peculiar habit interferes with their industry, their energy, or their perseverance. When an aspiring member of Parliament is about to contest a district, one of the first things he considers is the strength of the teetotal element. If there be many teetotal organizations, he is sure from the first that he must reckon with them; they will have their own ideas, they are likely to combine in many ideas, and perfectly certain it is that, should they set to work, their physical powers will fully compensate for any shortcomings of an argumentative kind. They will be aggressive, patient, vigilant, and of long endurance. Last week there was an illustration of some of these faculties in those abstaining members of the profession of medicine who are the representatives of the British Medical Temperance Association, a medical body now numbering close upon 500, and, we believe, over-numbering that figure if they who are learning their "rudiments," as Dr. Cophagus called it, may be considered medical. This Society, like its fellows, meets ordinarily in its own central rooms in the west end of London, or in the central rooms of its branches in other parts of the Kingdom, and there carries on its work of papers and discussions. But now, on the suggestion of its indefatigable honorary secretary, Dr. Ridge, the members of the Society, with characteristic pertinacity, are moving into new pastures and holding meetings in different districts, in order to invite the busy practitioners of the district visited to meet them in the most convenient way, and discuss with them the great argument for and against alcohol. On Wednesday week last, February 25, the first meeting of this kind was held at Northampton House, St. Paul's-road, Highbury, and for numbers present, as well as for the matter of debate, it must be accepted as a most successful first attempt. Dr. B. W. Richardson, the President of the Association, occupied the chair, and in an opening address led the way simply towards discussion. Every word that was extreme was avoided as unnecessary. The apathy of the profession as compared with the energy of the clergy was first touched upon, and then the sanitary side of the matter was made a special point for consideration. Alcohol produces a certain large and calculable mortality; the mortality means a large bill of sickness, and the sickness means an enormous loss of labor and the rewards of labor. But we, as a profession of health, said the chairman, are the custodians of health, and ought, therefore, specially to concern ourselves in the wholesale removal of the preventable cause of so much disease and misery. If an epidemic from some more obscure cause destroyed a tithe of people so systematically and regularly as alcohol does, we should be ambitious to vie with each other in discovering the mode of reaching and removing the root of the evil. It is our duty to do the same thing in regard to this great plague which is always before our eyes. Another point dwelt upon was the recognizable pathology of alcohol, and the lesson it supplies, in respect to the employment of it as a medicinal remedy. Touching this last subject, the speaker repeated his often stated

opinion that alcohol, whenever it is prescribed in disease, should be prescribed as "a weapon of precision"—that is to say, diluted with water in measured doses, without the least complication. This plan, he urged, answers perfectly, and after fifteen years' employment of it he had found it equal to every requirement. Finally, the requirement itself was, he thought, in truth, very much curtailed when all the facts of the necessity were fully disclosed. The masters of physic who recognized the force of the *experientia fallax* were most sound when they exposed that kind of experience, and never more was that soundness verified than in the practice of alcohol administration. Let a practitioner, said the speaker, who has been accustomed to use alcohol, once have the courage to look at the other side of the shield, and see what remarkable results follow treatment without it—as, for example, in cases of hæmorrhage, pneumonia and asthenia, and the rapidity with which the mode of treatment without alcohol would advance would lead to quite a revolution in the practice of using alcohol as a remedial instrument. Dr. Ridge, Dr. Norman Kerr and Mr. Moir followed on the same side. The most trenchant opponent was Dr. King, who dwelt more particularly on the social influence of alcohol for good when perfect moderation tempered appetite. He was of opinion that wine, judiciously taken, aided the worker and sustained the enfeebled. Altogether, this new experiment of local discussion on the alcohol topic from its medical aspects, by medical men amongst themselves, was so friendly, hopeful and instructive that we trust it will be repeated. It is good for brethren to dwell together in unity.—Editorial, *Lancet*.

CHOLERA INTELLIGENCE.

According to intelligence up to the end of January last, cholera had undergone a great diminution in Syria, no new cases having been recorded for several weeks in the villayets of Aleppo, Adana, and Damascus. On the other hand it was reported that two cholera deaths had occurred in the villayet of Diarbekir and five in that of Beyrout. The total cholera mortality in Syria up to the week ending January 24, had been 4,170. Of these, the villayet of Aleppo was responsible for 2,361, that of Damascus for 1,159, of Beyrout for 421, of Adana for 97, of Memouret-ul-Aziz for 85, and of Diarbekir for 15. Later intelligence is to the effect that cholera had ceased in Syria by January 22, and we have information from a correspondent who is able to speak with considerable authority, to the effect that so far as the towns, at least, of Beyrout and Damascus are concerned, no new case of cholera has as yet appeared. It may also be added that quarantine restrictions imposed at Constantinople on arrivals from Syrian ports between Alexandretta and Beyrout have been removed, and that the Syrian ports generally are regarded as free from the disease. There is, however, reason to believe that, as regards Tripoli cases are being lushed up, and that the disease has not yet quite ceased there. The serious epidemic in Japan, to which we have from time to time adverted, also seems to have come to an end.—*The Lancet*.

PRACTICAL NOTES.

TÆNIA.

Thomson speaks highly of the following :

- R. Chloroformi, $\mathfrak{f}\mathfrak{j}$.
 Syrup simp., $\mathfrak{f}\mathfrak{j}$. $\mathfrak{m}\mathfrak{x}$.
 S. Take in three equal doses at 7 A.M., 9 A.M., and 11 A.M. At midday give $\mathfrak{f}\mathfrak{j}$ of castor oil.

—*Le Courrier Médical*, March 15, 1890.

Another combination is :

- R. Flor. Koosso, $\mathfrak{z}\mathfrak{i}\mathfrak{s}\text{--}\mathfrak{z}\mathfrak{i}\mathfrak{v}$.
 Ext. filic. mar. æth., $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{s}\text{--}\mathfrak{z}\mathfrak{i}\mathfrak{j}$.
 Aquæ destillat., $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{j}$. $\mathfrak{m}\mathfrak{x}$.
 S. Take in three portions half hourly.

—*Kinder-Arzt*, April, 1890.

After a light diet the evening before, give the following on an empty stomach :

- R. Ol. tigllii, $\mathfrak{g}\mathfrak{t}\mathfrak{i}\mathfrak{j}$.
 Chloroform. purif., $\mathfrak{f}\mathfrak{z}\mathfrak{i}$.
 Glycerin., $\mathfrak{f}\mathfrak{z}\mathfrak{i}$, $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{j}$. $\mathfrak{m}\mathfrak{x}$.
 S. Take in two doses, half an hour apart.

—*Pharmaz. Zeit.* 45, 1890.

SUMMER DIARRHŒA.

The following is recommended :

- R. Resorcin, gr. iss-gr. iij.
 Infus. chamomil, $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{j}$.
 Tr. opil., $\mathfrak{g}\mathfrak{t}\mathfrak{i}\mathfrak{j}$.
 Tr. cascarill., $\mathfrak{g}\mathfrak{t}\mathfrak{i}\mathfrak{xv}$. $\mathfrak{m}\mathfrak{x}$.
 S. Teaspoonful every two hours.

—*Kinder-Arzt*, April, 1890.

Critzmann employs the following :

- R. Bi-smuth, salicylat., gr. xv- $\mathfrak{z}\mathfrak{s}\mathfrak{s}$.
 Tinc. opil., $\mathfrak{g}\mathfrak{t}\mathfrak{i}\mathfrak{j}$ -v.
 Infus. There., $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{j}$.
 Syrup rubi, $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{v}$.
 Rum, $\mathfrak{f}\mathfrak{z}\mathfrak{i}\mathfrak{v}$ -v. $\mathfrak{m}\mathfrak{x}$.

ASTHMA.

- R. Tinct. stramonii, $\mathfrak{z}\mathfrak{i}\mathfrak{j}$.
 Tinct. lobelie æther., $\mathfrak{z}\mathfrak{i}$.
 Potass. nit., $\mathfrak{z}\mathfrak{i}$.
 Sp. æther nit., $\mathfrak{z}\mathfrak{s}\mathfrak{s}$.
 Tinct. aurant recent., $\mathfrak{z}\mathfrak{s}\mathfrak{s}$.
 Aq. chlorof., $\mathfrak{z}\mathfrak{i}\mathfrak{v}$. $\mathfrak{m}\mathfrak{x}$.
 S. Take two tablespoonfuls at bedtime, and one tablespoonful if difficulty of breathing comes on.

TREATMENT OF SPASM OF THE GLOTTIS.

Sir Morell Mackenzie, an acknowledged authority in laryngeal cancer, recently imparted to his brethren of the Laryngological and Rhinological Association an item of practical information, which we communicate to our readers in the hope that it may come in handy just when something handy is a desideratum. The successful treatment of that alarming and dangerous condition, spasm of the glottis, is oftentimes difficult

and uncertain, but Sir Morell tells us that by setting up a rival reflex, the laryngeal spasm, itself a reflex, usually due to peripheral irritation, may be overcome *instantly*. All one has to do is to get the sufferer to take a pinch of snuff or pepper, or, failing either condiment, to excite sneezing by tickling the mucous membrane of the nares. The immediate result is a paroxysm of sneezing, after which the patient sinks quietly back to sleep, breathing like a newborn infant. The treatment is logical as well as practical, and as it is now made public for the first time, it is well worth a trial.—*Ex.*

ACUTE ECZEMA AND IRRITABLE CONDITIONS OF THE SKIN.

Dr. J. V. Shoemaker (*Times and Register*), advises :

- R. Cocain. hydrochlorat., gr. iij.
 Atropinæ sulphat., gr. j.
 Morphina sulphat., gr. ij.
 Unguent. acid. carbolicæ, $\mathfrak{z}\mathfrak{i}$. $\mathfrak{m}\mathfrak{x}$.

PIGMENTATION OF PREGNANCY.

- R. Cacao butter, $\mathfrak{z}\mathfrak{i}\mathfrak{j}\mathfrak{s}\mathfrak{s}$.
 Castor oil, $\mathfrak{z}\mathfrak{i}\mathfrak{j}\mathfrak{s}\mathfrak{s}$.
 Zinc oxide, grs. 45.
 Oil of rose, q. s.
 $\mathfrak{m}\mathfrak{x}$. Sig., to be applied morning and evening.

ANÆSTHETIC MIXTURES.

The following formulæ for the preparation of the anæsthetic mixtures, are given in the *Medicinische-chirurgische Rundschau*. The A. C. E. mixture, according to this journal, is made by taking :

- R. Alcohol, 1 part.
 Chloroform, 2 parts.
 Ether, 3 parts.

Another method of making it is to use :

- R. Alcohol and ether, 1 part.
 Chloroform, 3 parts.

With some the anæsthetic mixture is made by adding 4 parts of chloroform to 1 part of alcohol.—*Medical News*.

ARISTOL FOR FISSURED NIPPLES.

Vinay, in *Lyon Médical*, has recommended the employment of aristol in the treatment of fissured nipples occurring during lactation. He uses it in cases in which there is much ulceration and pain. The mixture is as follows :

- R. Aristol, 1 drachm.
 Liquid vaseline, 5 drachms.

This is to be applied to the breast and carefully wiped off before the child nurses. After its employment the pain diminishes and cicatrization goes on rapidly. In cases in which the glands become much involved, this preparation of aristol may be rubbed into the enlargements with advantage.—*Medical News*.

SOCIETY PROCEEDINGS.

Gynecological Society of Boston.

217th Regular Meeting.

The Gynecological Society of Boston held its 217th regular meeting at No. 19 Boylston Place, Boston, on Thursday December 11, 1890, at 4 o'clock P.M., with the President, W. SYMINGTON BROWN, M.D., in the chair.

DR. AUGUSTUS P. CLARKE read a paper entitled
THE INFLUENCE OF THE POSITION OF THE PATIENT IN LABOR IN CAUSING UTERINE INERTIA AND PELVIC DISTURBANCES.

(See page 432.)

DR. WM. G. WHEELER said that common custom influences the position of the patient or the time of labor, but each case should be treated according to its own merits. The Irish physicians use the knee elbow position. He prefers the left lateral position but does not feel like recommending any particular position exclusively.

DR. C. E. PRIOR stated that most women select their own position and in his own practice he allows the patient to do so. He doubts whether the long continued position is responsible for the many results alleged. He feels that the sooner the patient is delivered the better, and he would rather use the forceps early than allow troublesome delay. He said the reader did not touch upon the subject of position to rectify presentation. On this subject he is not as enthusiastic as a certain writer whose article appeared about a year ago.

DR. D. WALDO STEARNS said that he had the same opinion as the last speaker and he believes that too long labor is responsible for many evils. The patient should walk about during the first stage in order to keep up the pains which stop if the patient lies down. In the second stage he prefers the left lateral position. If there is inertia he gives 15 grains quinine according to the teachings of Fordyce Barker; this is usually very effective. Friction over the abdomen may also be applied. If there is still no progress he then uses the forceps. The urine should be drawn and the bowels evacuated unless there has been an operation within a short time. He gives an enema in the first stage. He prefers the use of forceps to turning. Can the physician prevent rupture of the perineum? Some authorities say that ten per cent. are unavoidable. He does not have as many cases of rupture as formerly. He forces up the head when necessary. He has recently read an article which advised the occurrence of a rupture if necessary to save the child from too long delay.

DR. BROWN could recall no case he had seen in which the position of the patient made any difference. He prefers the left side. The patient

should walk about during the first stage but not enough to get tired. To relieve tiresome aggravating pains he administers an opiate and thinks it preferable. He would not use forceps until absolutely certain that labor would be too long delayed if they were not used. He has seen the perineum torn several times, but believes that it can frequently be saved by the method explained by Dr. Stearns, which he also has used. Changes in position are recommended. He does not like to give much ether and would use it only just as the head is coming out. He fears post-partum hæmorrhage after the use of ether.

DR. WILLIAMS has had the same experience as Dr. Stearns. He thinks the position should be changed. Some of the effects may be due to something of which we do not know. He has used chloral with much benefit.

DR. JEFFERSON has experienced no trouble from any one position long continued, and he fears too speedy delivery more than this.

DR. ELLIOT prefers the left position and he changes if necessary. He remembered one patient who would not lie down, and the head of the child was found to be blocked. He has used chloral and opium, but would rather feed the patient, which he thinks prevents tardy labor. He stretches the perineum and holds back the head and thus rarely gets a rupture. Sometimes gives stimulants.

DR. COOK treats the bowels before labor sets in, but he finds it difficult to get his orders carried out. He prefers the action of chloral to opium. He has seen good results from the use of hot water douches by rectum or vagina. He prefers the position on the left side because manipulation to save the perineum by the fingers in the rectum is easier thus. He would not allow one position too long in the second stage. If the os remains rigid after three or four hours he would not allow labor to go on without treatment.

DR. IRISH said he never saw any mischief arise from the use of one position, yet he feels that too long delay in one position may cause trouble. He would use instruments if after three hours there was no advance and there were sufficient pains. He prefers chloroform to ether. He never had any post-partum hæmorrhage result from the use of anesthetics. He does not continue the administration until there is complete anaesthesia. He thinks it acts as a stimulant to pains.

DR. WHEELER narrated a case of complication which he had not seen for forty years before. It is unique in his experience. He has seen one case complicated with measles which did well and another with scarlet fever from which the patient died. The peculiar case was one of cerebro-spinal meningitis. The woman was 28 or 30 years old. First labor. She had the disease for twelve hours before labor. Dr. W. saw it with

another physician, who said he had a patient with rheumatism. There were pains in various parts of the body but no labor pains—no increase of temperature—no heat or swelling. The uterus was quiet—eight hours later there was more pain—no vomiting. The os uteri seemed to be a little more patulous and dilatable. Thought the pains to be neuralgic and gave an opiate. Then noticed some spots on the abdomen which did not disappear on pressure. The whole skin was sensitive. He urged dilatation as he felt that something was coming. He ruptured the membranes and the pains subsided. The labor was terminated in about eight hours. When the uterus began to act the other pains ceased for about twenty-four hours, when they came on again and the spots became more pronounced. There was some rigidity of the muscles of the neck. Both typhoid and meningial disease were thought of. Next day the head drew back and the patient died in seventy-two hours. He had never met with such a case before.

DR. PRIOR stated that he uses the forceps to deliver a difficult case if the head is low down, but he turns it if it is high up.

The President, DR. W. S. BROWN, said that he prefers the position on the left side. He does not allow too long a delay in labor, but advises and uses forceps or some other method of interference.

DR. CLARKE, in closing the discussion, said that he has felt like giving food during labor but he found he had been criticised for such advice. He has had cases of labor which came to a speedy termination after a change of position.

Philadelphia County Medical Society.

Meeting of February 11, 1891.

(Abstracted from THE JOURNAL.)

THE TREATMENT OF CORNEAL ULCERS BY THE ACTUAL CAUTERY.

DR. G. E. DESCHWEINITZ, read a paper having the above title. After rehearsing the history of the use of the actual cautery in cases of corneal troubles the writer brought his own cases, in which this method of treatment had been used, together under the following several heads: 1. Small central ulcers in children of bad nutrition, which either through neglect or imperfect treatment have tended to form an abscess. 2. Shallow central ulcers in scrofulous patients, the ulcer having a slightly turbid base, very chronic in its course, and declining to heal under ordinary remedies; in all of the cases of this character there were the appearances of former granular lids, and in one active trachoma. 3. Phlyctenular ulcers, beginning in the form of small pustules at the corneal border, speedily ulcerating

and surrounding themselves by a yellow area of infiltration, and with a strong tendency to perforate. 4. Infecting or sloughing ulcers associated with pus in the anterior chamber, or, in other words, hypopyon keratitis. 5. Marginal ring ulcer, or that form which is sometimes seen in purulent ophthalmia, occurring just at the circumference of the cornea, often covered up by the chemotic conjunctiva, and very likely to perforate, because it is hidden by the swollen tissues and not observed. 6. Herpes of the cornea, one being an example of an ulcer associated with herpes zoster ophthalmicus, and the other true herpes of the cornea in which a vesicular eruption occurs, breaks down, and leaves an ulcer; that form which has been seen under the same circumstances, as when herpes occurs around the lips and nose.

In all cases the cautery had only been used after other methods of treatment had been tried, and the author says that he has not one single bad result to record. In three out of thirty cases perforation of the cornea took place, "with evacuation of the aqueous humor, twice as an accident during the application of the cautery, and once when the ulcer had nearly perforated, and Desce-met's membrane had bulged forwards, forming its floor, then I deliberately burned through the tissue."

As to the method of application, a small Paquelin thermo-cautery, a galvano caustic loop, or, as in the writer's experience, a platinum probe heated to redness in a Bunsen burner, may be used.

The pupil is atropinized or eserized—according to the indications present—and a few drops of cocaine are instilled shortly before the operation. The lids are then separated by the operator, and the cautery applied gently to all of the sloughing material. Usually but one application is required, yet subsequent touching may be demanded. The after-treatment does not differ from that given to an ordinary corneal ulcer; and as to the cicatrix, or leucoma, resulting it is no more extensive—the author holding that it is even less so—than happens when healing from other means. There are some contra indications to this use of the actual cautery, among which are "extensive ulceration, involving a large area of the cornea," and yet in "just such cases very good results have been obtained." It should not be used in an ulcer which has already perforated, and where anterior synechia has occurred. And it does not seem to the writer to be indicated in cases of hypopyon keratitis where "there is a large ulcer associated with a hypopyon that nearly fills the anterior chamber, and in which it can be demonstrated that the collection is exceedingly tenacious, having assumed the character of a slough."

In the discussion which followed, DR. EDWARD

JACKSON said he had but a comparatively small experience in the use of this method. He felt convinced that heat was the only antiseptic which would penetrate as far as the tissue was involved, yet while it does so, and destroys the suppurative process, it also destroys the corneal tissue leading to a corresponding opacity. In his experience scraping of the surface of the ulcer, together with the use of eserine, had been sufficient.

DR. CHARLES H. THOMAS had not used the cautery, having found that a thorough wiping of the ulcers, and touching with the solid stick of nitrate of silver, to have answered very well.

DR. SAMUEL D. RISLEY, also, had not used the cautery, although aware of its merits. He had found other measures to do, excepting in some cases in which failure had been met. In such cases, hereafter, he felt that he would resort to the cautery treatment.

In closing the discussion, DR. DESCHWEINITZ said: "The actual cautery should not be used, as a rule, until the ordinary and milder methods have been employed. If the cautery is applied carefully, and not, as recommended in some text books, beyond the edge of the ulcer and into the healthy tissue, and only that portion of the structure burnt which would be destroyed by the process of disease, there will be no more opacity of the cornea than if it had not been applied. In certain types of infecting ulcers, with a creeping tendency, it seems to me there should be no delay in the employment of this most potent remedy."

SEVERE PUERPERAL ECLAMPSIA; THE IMMEDIATE INDUCTION OF LABOR; RECOVERY.

A few remarks, together with a very complete history of a case, were offered by DR. WILLIAM H. MORRISON. The medicinal measures, which had been found of value, were rehearsed, and the unsettled etiology of the disease was reviewed. The primary indication in puerperal convulsions happening previous to delivery, viz., the speedy termination of the pregnancy, was emphasized; and meantime the convulsions should be controlled by the use of ether, chloroform, chloral and other similar substances. Also was relief to the kidneys to be afforded by free catharsis and diaphoresis. The writer felt that in the more severe cases, where uterine contractions were tardy, and a rapid termination of the pregnancy, in consequence, impossible, that the question of the removal of the fetus by abdominal section should be seriously considered. "Such a course would in a few minutes remove an important causative factor in the production of the disease, afford a better opportunity for the action of remedies intended to control the paroxysms, to stimulate the action of the kidneys and to favor the excretion of poisonous matters, and probably give, both to the mother and to the child, the best chance for life."

DR. REYNOLDS WILSON said he simply wished to refer to the use of morphia in the treatment of puerperal convulsions. He had recently seen its clinical use by Professor Winckle, who advocated its administration hypodermically in doses of one-half grain, repeated in from four to seven hours, and continued until three grains in all had been given.

DR. WILLIAM S. STEWART had seen a number of cases of puerperal convulsions, and never found any difficulty in controlling them by the use of chloral, which he found acted decidedly within a specific length of time. "One drachm of chloral injected into the rectum will control the convulsions for about one hour and a half, almost to the minute." It may then be repeated. The effect is profound sleep, and the action of the drug will be manifest, it is stated, in ten seconds.

DR. WILLIAM H. WELCH mentioned a case in which chloral had been freely used, yet the patient was not saved.

DOMESTIC CORRESPONDENCE.

Results with Koch's Remedy.

To the Editor:—I desire to give my results with Dr. Koch's remedy in a short communication. I may say that the same has been used in my private institution for diseases of the lungs and throat since December 23, 1890, in twenty-two cases of pulmonary tuberculosis, some of them having also laryngeal tuberculosis, and in one case of lupus vulgaris of the face. These cases were reported and shown to the Buncombe County Medical Society, March 2.

From the beginning I determined to avoid general reactions, and we kept the temperature records to preserve us from over-dosage rather than to assure us that the patient is showing therapeutic effects in the symptoms produced. I find that local reactions can frequently be observed with the stethoscope by examinations in from two to thirty-six hours after an injection, and that local reactions occur in the larynx and in the lupus case, as well as in the lungs, without material rise of temperature, or the production of general symptoms.

I find further that all the cases which I have selected for the Koch method, in both early and advanced stages, but particularly in the former, show an unmistakable general improvement, consisting in gain of flesh, from three to fifteen pounds (one advanced case gained ten and one-half pounds in three weeks), there is an increase in strength, a better color, less cough and better sleep, the patients are thoroughly conscious of their improvement. Also that in the majority of

cases local changes have occurred in the affected parts, which, without Koch's method, we have always recognized to be for the better. These local changes consist in the disappearance of moist sounds, gurgles, râles and crepitations, and the reappearance in their stead of a better character of respirations; in the larynx of diminution of swellings and infiltrations, cleaning off and granulation of ulcerations; in the lupus case, of progressive healing and repair, and with these improvements we have less cough and expectoration.

In four cases the symptoms have entirely disappeared, and microscopically, the bacilli fail of demonstration, or are comparatively few and gradually diminishing in number where we still get sputum for examination.

In my local examinations I find that all tubercular deposits do not react to the remedy at the same time. Virchow and others have shown anatomically that the very young tubercle, the miliary eruptions, and the old deposits located in fibroid and cicatricial surroundings are frequently unaffected, and I explain these evidences by the vascularity of the tissue surrounding the tubercle, being least, or entirely non-vascular, where we find a given dose of the remedy inoperative. Later local reactions occur in recent deposits to even smaller doses than formerly were borne without local reaction, because by the natural changes these tubercles have undergone in the intervening time, vascular and granulation tissue has been produced, and the tubercle is now accessible. Older deposits react locally only after reaching large doses, because of the slight and feeble circulation through cicatrizing connective tissue, not enough of the remedy could previously reach them to produce an effect. The local reaction of accessible tubercular tissue is in proportion to the dose, and if excessive, causes not only necrosis of the tissue, but so rapidly that I have seen the excavation and an almost entire upper lobe in less than a week, at one of the Hospitals in Berlin. Such rapid processes bring with them the dangers of general infection.

In considering our results, we have of course to remember that some improvements would have occurred, the same as we have witnessed heretofore, due to climatic and other influences, and particularly due to the strict and correct management of cases in a well conducted institution. We had, a year ago at this writing, not a single case in our establishment that was not showing some improvement, but I believe I am not mistaken in my belief that under Koch's method we have had a more uniform and more rapid favorable influence to record than heretofore, and in some cases, so much so that we cannot but attribute it, at least to a considerable degree, to the action of the remedy.

Our dosage begins with half a milligram, and

an increase by half milligrams every second or third day, and only then when we are entirely satisfied that to the last two doses no general or local reaction has occurred. Any rise in temperature at all attributable to the remedy is a signal for a delay of an additional day in repeating now a smaller dose. After ten milligrams have been reached we increase by two or two and a half milligrams, and we have now, in some cases, arrived at forty milligrams without ever having disturbed the subjective feelings of the patient, and with the happiest results.

Seeing these results so satisfactory, and knowing that nowhere in this country or in Europe a similar method of administration has been adopted, I believe it my duty to call attention to what I believe to have been a system of over-dosage with production of poisonous and dangerous symptoms in the use of the remedy.

CARL VON RUCK, M.D.

Asheville, N. C., March 3, 1891.

The Philosophy of Consumption.

To the Editor:—A proclamation by an eminent physician that he has discovered a specific cure for consumption in its most prevalent and insidious form, known as tuberculosis, might well create a deep and universal interest, since there are comparatively few of us that do not have this deadly enemy within the limits of our cousin kinship. And if German slaughter-house statistics are to be taken as representative, no less than ten per cent. of our domesticated-horned cattle, are a prey to the same disease, though seldom discovered during life. This fact would suggest that tubercular consumption is still more prevalent in the human family than has yet been supposed, and that many carry it under the cover of other maladies.

But unfortunately for any hope for a specific remedy, the preponderance of evidence points to the fact that consumption is much more a product of individual habits and social and climatical conditions, than a resultant of any one agency. Indeed, the positive evils may vary not only in their degree, but also in their number and order of action in the period of its evolution.

If it were hereditary in the sense that it is transmitted by the blood, as a specific germ or virus, then the offspring of consumptives would have an attenuated form of the disease which, by reasoning from analogy, ought to secure them exemption from any further danger along that line. Such, however, is not the case. But if we say a special fitness is inherited, then we can understand how the offspring of consumptives are prone to develop it, since they are not only born with hereditary qualifications, but not infrequently they are cradled amidst the very agencies

which fostered the evil in their parents, if indeed, they were not primarily causative.

That the contribution of heredity to consumption is great is undoubtedly the case, and more than any other factor it would seem to have a directing power in the army of inducing evils. But the fact that the greater number of the offspring of consumptives escape the disease, even where the general family resemblance is quite pronounced, is readily explained by the difference in personal habits, the circumstances of different periods or the domestic regulations instituted by medical counsel. Also the fact that consumptives so frequently spring from neurotic parentage and the victims of dissipation, especially alcoholic, still further goes to show that the hereditary element is essentially a reduced power of resistance to formative evils, and that as a negative condition, it may hold the balance of power in focusing the forces. Thus, heredity in disease can be understood as in no sense implying a specific force, but rather, as an atonic or susceptible condition, varying in its precise character and producing a *pars minoris resistentia*, or a special weakness in a special way.

That the germ bacillus does not originate consumption, there can be no doubt, unless consumption is not to be regarded as a disease until it is full fledged, for otherwise, the germ would be present in the earlier formations, as well as the later, which, according to good authority, is not the case. But that this parasite has a special affinity for consumptive tissue, there is no question, and that it thrives therein with great rapidity, hastening retrogressive changes, is also to be granted. But as yet, this is all we are entitled to believe.

We thus see that the lines of successful treatment must be both constitutional and local, that the constitutional cannot be specific and the strictly local cannot be curative. The constitutional must be of a negative and positive character, having regard to the support of the healthy remnant, and which will require correction of any deficiency whatsoever in order to remove the morbid constitutional habit. The local will be cleansing of the affected organs from the germs and morbid products.

The evident selective affinity of Koch's lymph for tuberculous tissue may enable it, in certain cases, to effectually seal the arterial capillaries about the affected organs, owing to the intense vaso-motor disturbance produced. This would starve the germs, which with the tubercular matter, may be expectorated through the moisture and motion of the lungs. In incipient cases the tubercles might be as readily absorbed as catgut ligature, and the germs, if any, fall to phagocytic prey. The Koch lymph is evidently not a poison to the germs, and probably has no other action on the affected organs than that of an irritant,

having a selective affinity by virtue of the kinship with its contents. This theory of its action is supported by our common knowledge of the power of pyogenic agents to awaken old or slumbering inflammations, and the fact that septic fevers, such as small-pox, have been known to leave the consumptives in the last stages free from every symptom.

J. S. CHRISTIAN, M.D.

348 Washington Boul., Chicago.

Cases of Typhoid Fever in Infants.

To the Editor:—It is commonly thought that typhoid fever is rare in young children. Perhaps this is so, yet so far as I have observed, it is not much of a respecter of persons, for in my experience it has ranged through all ages. The following cases it may be proper to state:

Some years ago my wife took this fever while nursing a child 6 months old. This child became sick with the disease the same day and, though separated from her parent, ran a course *pari passu* with her mother. When one had a good day the other did, and when one had a bad day the other followed suit. It was not till the end of three weeks that there began to be signs of improvement. But both began to improve the same day, and so went on. For two years afterwards both were alike subject to occasional attacks of stomatitis. When nearly 3 years old, the child died of diphtheria. Its mother then took the diphtheria, but had it lightly.

The second case was 9 months old, and was also a nursing child. In this family there were nine children from 14 years down, and all had the fever. The mother also had the fever and was in the family way with her tenth child. I did not discover that she was any the worse for being pregnant, though she was well worn down by care before she took the fever. They all recovered. In due time the mother was confined. The child, however, was smaller than any of the others. I had an interest to know whether this child had the fever *in utero*, and so rendered insusceptible to the fever afterwards; but at the age of 3 years it died of croupous diphtheria, and so closed my interest in the case. The father, who had had the fever in the army, escaped. It was plain that they were all exposed to the same cause—filthy water from a tank filled by wash in which were dead rats.

In another family of six children, they and their mother had the fever, except the youngest, then 1½ year old. It was not nursing.

These examples rather hint that it may not be so much due to difference in constitution of young children that they should be measurably exempt from typhoid, as to their less exposure to the ordinary sources of the cause. As a rule, they

move in narrower spheres than older children, and so are less exposed and less liable to be affected; while, if they are nursing mothers who come down with the fever, they are exposed and take the poison point blank, and do not escape.

Is there any record of the case of an infant who was nursing its mother when she came down with the typhoid fever, that did not also take the disease? If not, this shows the great danger to families, if cows from whom they receive their milk happen to be affected with the fever, examples of which have been reported.

E. CHENERY, M.D.

Boston, Mass.

BOOK REVIEWS.

A TREATISE ON RHEUMATISM AND RHEUMATOID ARTHRITIS. By ARCHIBALD E. GARROD, M.A., M.D. (Oxon.), M.R.C.P., etc. With charts and illustrations. Philadelphia: P. Blakiston, Son & Co. 1890. Chicago: A. C. McClurg & Company. Pp. 342. \$6.00.

To the student of medicine—be he either upon the threshold of the great science, or treading faithfully along those sacred grounds which a life time's toil has gained him access—this classical treatise will find a warm interest. And he who has the "love of learning" in his heart will but bewail the interruptions of professional duty which call him away ere "finis" proclaims that all has been said. It is really unfortunate that professional exactions prohibit the resolve—which comes when such a lucid delineation of a disease process so widely observed as rheumatism is placed before us—to closet one's self for a day, or a night, that the mind may arise to a full conception of quite all there is to know upon the subject in hand. Few there are thus blessed. Yet for those who run, the moment's halt they must needs have will find refreshment between the covers of this volume.

Starting out with a clearly written history we have, following a review of the theories heretofore advanced with relation to the pathology of rheumatism, which the author concludes with this statement:

Time alone can show whether or no any of the above-mentioned observers have succeeded in discovering a microorganism which is the actual specific cause of the phenomena of rheumatism. Until then, we can only rely safely upon the results of clinical study, which seem to indicate that, in spite of the difficulties presented by the apparently constitutional nature of the malady, no theory of the pathology of rheumatism which has as yet been advanced makes so good a show of explaining the peculiarities and variations in the prevalence and type of rheumatic attacks, or accounts so satisfactorily for the peculiar distribution of the local lesions of the disease, as does that which attributes them to an infection from without.

Then appear clear, terse chapters upon the etiology of rheumatism, and the association maintained with other bodily affections, going into the subject quite to the uttermost, and yet without that redundancy of expression which so often mars a study of this nature.

The first part of the treatise ends with a résumé of the treatment of rheumatism as it stands to-day, and shows the strong position held by the salicylates.

Part II (Book II) treats of rheumatoid arthritis, and is a comprehensive exposition of the leading thought of the times.

A voluminous bibliography, and a very complete general index, closes the volume.

The reviewer cannot well take leave of this book without also noticing the publisher's work, which is, in few words, much superior to that usually observed.

ASSOCIATION NEWS.

Notice to Secretaries of Sections.

To the undersigned Secretaries of Sections are urgently requested to send the list of Papers to be read before their respective Sections, as soon as completed, in order that there may be no delay in the printing of the Programme of the Meeting.

C. H. A. KLEINSCHMIDT, M.D.,

Local Secretary.

3045 N St., Washington, D. C.

SPECIAL CORRESPONDENCE.

Shall The Journal be Removed to Washington?

THE ACTION OF THE MEDICAL SOCIETY OF THE MISSOURI VALLEY.

The following resolution was unanimously passed by the Medical Society of the Missouri Valley, in session at Omaha, Neb., March 20:

WHEREAS, It having come to the knowledge of this Society that an effort is being made to remove the headquarters of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from its present location in Chicago to Washington, D. C.; Therefore, be it

Resolved, That we, the Medical Society of the Missouri Valley, instruct our delegates to the coming meeting of the American Medical Association to use all honorable means to retain the headquarters of said Journal in its present location.

F. S. THOMAS, M.D., Sec.

Council Bluffs, Iowa, March 21, 1891.

To the Editor:—I have been waiting patiently to hear the arguments that our Eastern friends rely on to effect the removal of THE JOURNAL to Washington. I have been impressed with most of them as applying with increased force to Chicago.

Leaving out the question of politics, there appears to be nothing in this agitation. But the fact that the next meeting of the Association will occur in the city that is a candidate for the location of THE JOURNAL renders it

necessary to thoroughly canvass the merits of the case before a vote is taken.

There is always a large attendance of the local members of the profession wherever the meetings are held. Washington, Baltimore, Pittsburgh, Philadelphia, New York and other Eastern and Southern cities will be more largely represented than they would be if the meeting were to be held in some other section of the country. Ought the vote of the members who chance to be present at the Washington meeting to decide this question, instead of a vote of the whole membership?

Should any meeting held in Washington or Chicago settle a dispute between these two cities? Undoubtedly the modesty and sense of fairness of our Washington brethren would forbid their participation in such a scheme.

There are the best of reasons to believe that the removal of THE JOURNAL would deprive it of a large share of those requisites to success that have contributed to make it the peer of any American medical journal.

When the loss of advertising patronage is mentioned, some of the advocates of moving for the sake of a change reply that THE JOURNAL should get along without advertisements. Very well. When Grant proposed to take Richmond did he tell his soldiers that they should get along without biscuit and bacon, or coffee? Have these gentlemen ever tried the novel experiment of publishing a journal without advertisements? Which one is so philanthropic as to give bond to indemnify from the loss?

A good certainty is better than an unreasonable, sentimental uncertainty.

It is not surprising, since THE JOURNAL has passed the experimental stage and is an assured success, that a clever neighbor should covet the promising prodigy, but it is too late, gentlemen, to ignore the labors of those who made it what it is.

Who is there in Washington who would have done better, under the same experimental circumstances, than have Drs. Davis, Hollister and Eggleston in an editorial capacity, and Mr. White in his able and courteous management of the important business and mechanical department of the enterprise?

Can we afford to repudiate those who have built up, and are improving our plant, sacrifice our best-paying advertisers, and move out of this great centre of population, commerce and wealth, with its vast accumulating libraries, universities and nine medical schools, with its army of about 2,000 under-graduate and post-graduate medical students?

Is it expected that the mere fact of publishing THE JOURNAL within the city limits of our Capital, is to exercise great influence over our representatives who go there periodically to make laws? In other words, has it become necessary to have editors and publishers performing the rôle of lobbyists to accomplish the ends of our great Association?

If a change must be had, for the sake of a change, St. Louis would be a better location for THE JOURNAL than Washington.

S. S. BISHOP, M.D.

Chicago, March 14, 1891.

To the Editor:—I have read most of the letters to THE JOURNAL, pro and con, in relation to the moving of the same to Washington, D. C., and I have not seen any opinion, as yet, coming from the profession in the old Granite State. But I am sure, that as I have consulted with my confères thus far, a united voice will come from her hills and valleys: "Let THE JOURNAL remain where it is, unless you wish to asphyxiate its present life powers!"

My reasons are the following: As far as I can judge, there are three to one of the members of the Association, regardless of location, who are opposed to its removal. It is much better and safer policy to let the majority rule in the make-up of all organized bodies. If for no other

reason, organic law will decide: "Let it remain in Chicago."

That city affords the best location for it of any city upon this Continent, at the present time. I spent some four months there during the last season, and I know whereof I write. I took some little pains, while there, to investigate the past and present condition of the city; and I wrote several letters, which were printed in one of our local county papers, in regard to the city's development during the past fifty years. It is the most wonderful city upon this Continent. It puts all other cities in the shade as a business centre, when you combine its commercial and railroad facilities, even New York itself. While the latter city has 25 main lines, Washington has 3, Chicago has 38 through lines, running to all sections of the great West, upon which 1,500 to 2,000 trains run in and out of the city every day. Then its population of 1,200,000 makes it the second city in this Nation in numbers. In every form of mechanical, industrial and mercantile growth it is most wonderful. She to-day possesses 30,000 industrial shops and factories, has an area of almost 400 square miles, and if it increases in population for twenty years to come as it has in the last decade, it will become the Queen City of the World, larger than Ancient Babylon, Modern Paris, or British London.

It is argued that Washington is the best location on account of its superior advantages in medical men and literature, and this will serve to make the personnel of THE JOURNAL of a higher order. But I say Chicago leads all other cities in this country (save New York) in advantages for medical instruction. She has five chartered medical colleges, all in a most healthy and prosperous condition, keeping pace with all the wonderful and amazing developments of the other departments of the city.

I am not aware that our profession has any more lofty mountain peaks in medical erudition, or scholastic qualification, in Washington than in other medical centres.

Another plea for its removal—that because our Association is a National body it ought to be in Washington, as that is the National Capital. This may seem patriotic and theoretical, but who shall say how long Washington may remain the Capital of this Nation? The West is making great strides in population and increase of States, and soon the voice of this Republic may be heard in its vote to change the location of its Capital, and put it in a more central position. The vote of the people will rule this country, and that portion east of Washington, D. C., is but a fragment, in point of territory and population, compared with Northwest, West and South of this fast growing Republic.

It is for the very reason that Washington is the Capital, and the great centre of political demagoguism and partisan strife that it should be the very last place to select for the home of THE JOURNAL. It is the medium through which the sentiments of all medical writers are voiced from all sections of the Union, and it should not be placed where there is danger of its becoming colored in the least with political proclivities.

Let our noble, and ancient profession, stand upon its own broad, scientific character, and its intrinsic worth, to the best good of humanity. Keep it sacredly free from all foreign influences that can belittle its value in the estimation of the world.

For these reasons, and I could cite more if time and space would permit, I shall vote *not* to change the present home of our popular and well managed JOURNAL.

W. B. PORTER, M.D.

Walpole, N. H., March 14, 1891.

To the Editor:—I am opposed to the movement to change the place of publication of our National Journal from Chicago to the City of Washington. I think there is no valid reason for it: THE JOURNAL is ably conducted, centrally located geographically, and a

large business city like Chicago is much more conducive to the support and advancement of a medical journal than a *political rookery* like the city of Washington. I think our western members would have just cause for complaint if it were removed farther East. S. LAUGHTON, M.D.
Bangor, Me., March 15, 1891.

To the Editor:—As several good reasons have been and can easily be advanced why THE JOURNAL should not be removed, and no good reason has yet been given why it should be removed, and since no medical journal has ever yet flourished at the Capital, I cast my vote in favor of THE JOURNAL remaining at Chicago.

E. H. M. SELL, M.D.

44 West 49th St., New York, March 17, 1891.

To the Editor:—My best wishes for the continued prosperity of THE JOURNAL. I hope it may long remain in the great City of the Lakes. W. W. REEVES, M.D.,
Supt. State Lunatic Asylum.

Austin, Tex., March 17, 1891.

To the Editor:—I can see no reason why the location of THE JOURNAL should be changed from where it now is and has been so long published, and as I believe, to the best interests of the Medical profession. Chicago is nearer the centre of the United States, and why remove THE JOURNAL? I think it far better for the Medical profession to advocate less change in our associations, rules, and regulations, and stand firmly together as a band of brothers and from upon all movements to create "isms" and "cisms" that tend to weaken and destroy the old landmarks of the profession. C. R. EARLEY, M.D.

Ridgway, Pa., March 17, 1891.

To the Editor:—I notice one of the reasons given by a subscriber for moving THE JOURNAL to Washington, is, that "We the official representatives of the profession should keep as closely to the Government as possible."

The people is the Government, and as Chicago is the centre of the people let THE JOURNAL remain in Chicago and move the Capital near to THE JOURNAL—that the centre be less loquacious. E. F. CLAPP, M.D.

Iowa City, Ia., March 21, 1891.

To the Editor:—Please put me down as in favor of retaining THE JOURNAL at Chicago.

A. B. JUDSON, M.D.

New York City, March 21, 1891.

To the Editor:—It is sound doctrine in medicine, as in other pursuits in life, to let well enough alone. THE JOURNAL has passed its minority, and is now full grown and is second to no journal published. Its financial success has grown with its years and it is now on a sound basis; its editorials are concise and to the point; its selections good and of the latest published. THE JOURNAL is in a healthy condition. It requires no medication or change of climate, to sustain its vigor and usefulness.

Let it remain in Chicago. B. L. HOVEY, M.D.
Rochester, N. Y., March 21, 1891.

A REPLY TO DOCTOR COMEGYS' LETTER.

To the Editor:—I see by the last issue of THE JOURNAL, that my erudite friend of Cincinnati, Dr. Cornelius G. Comegys, has evidently made an Herculean effort to convince the members of the American Medical Association, that their journal should be transplanted from Chicago to Washington, D. C. But like many other persons, who have unfortunately got on the wrong side

of great National problems, it has required a prolonged and gigantic effort on the part of the doctor, to convince even the most unsophisticated member of our Association that his position was right, or that his arguments were well founded and his logic unassailable.

The doctor seems to have forgotten that when THE JOURNAL was born, some seven years ago, that there was only 1,000 members of the Association, which limited its income to not over \$5,000 a year, plus the scanty returns it received from its advertising patronage, which at that time was less than \$1,000 a year, thus limiting the entire income (provided every member and patron paid up his subscription and advertisements promptly, which is seldom the case), not to exceed \$6,000, whilst the expense of publishing alone, not including any pay for editorial work, was over \$8,000 a year or \$2,000 in excess of the annual income.

But by being "so conservative, so determined, to take no risks that involved a prospect of pecuniary embarrassment" the management has increased the membership of the Association from 1,000 or less to over 5,000 members and subscribers, which guarantees an annual income of at least \$25,000 a year besides the annual receipts from its advertising patronage of about \$10,000, or a total of about \$35,000 a year. The management has bought and paid for their own plant and equipment for publishing, binding and mailing THE JOURNAL, and has done all this within the short space of seven years; and yet by this extreme care of the financial and business interests of THE JOURNAL, which Dr. Comegys condemns, and by which he says it "has been kept too much in the rear of the line of a contest for the due rank of medicine in communities and in the State," yet, notwithstanding all this, it has risen from the cradle of journalism in this short time to a place second to none among the medical journals of the United States and Canada; and publishes more pages of reading matter each issue than any journal in our country, and over 400 more pages annually than any medical journal on the Continent.

From THE JOURNAL and its management proper he next turns his "old smooth bore" on the editorial qualifications of the organ of our Association, and says, "no one doubts the editorial capacity of Dr. N. S. Davis or Dr. Hollister, but these gentlemen, both are large practitioners," and because they are both industrious practical men, who are familiar with the every day work of the profession, and in sympathy with the ups and downs of the daily routine of the physician's life, and from experience know what he needs, he claims they are disqualified to edit a practical journal, for the practical doctors of the United States. Did mortal man ever hear of such an innocuous untenable argument? Does Dr. Comegys flatter himself, for a moment, that there is one out of every ten members of our Association who would or could be induced to believe that because a doctor is in the actual practice, and really a *practical physician or surgeon*, that he is therefore disqualified for the position of "Supervising Editor" of a practical journal for practical doctors?

Does any person suppose for a moment that if Dr. Comegys was seriously ill, or any member of his family, that he would employ such a physician as he would recommend for "Supervising Editor" of our journal to treat him or his family? "Not by a jug full." He would obtain the very best practical physician or surgeon he could get, because he was a *practical man* and not an impractical theorist. For the same reason the members of our Association want a *practical physician* at the helm of the Editorial Department, as well as a *practical man* at the head of the Business Department of THE JOURNAL, because they are *practical and know by experience*, what they are doing and talking about.

Our association has no use for high-flying theorists at the head of the Editorial Department of THE JOURNAL, who would fain weave gauzy editorials out of fine spun theoretical yarn, which to the innocent student, or unso-

plicated, might appear like a brilliant mental effort, but which to the everyday practical physician would be about as useful as sounding brass or a tinkling cymbal, as compared with food, in a time of famine.

In the preface of the first volume of Prof. Agnew's "Surgery" you will find this eminent surgeon saying: "Most of the pages have been written not in what may be termed moments of leisure, but during the hours of the night—hours stolen from the time usually allotted to the repose of body and mind, and after the daily labors of an exacting public and private practice." This sentence alone explains why the best physicians and surgeons of our country as well as of foreign lands so eagerly sought this most valuable work. Because it was written by a *practical* surgeon and not by a theoretical tyro in the medical profession; and yet in the face of all this our erudite friend would advise changing the practical physician and surgeon we now have for "supervising editor," for one who was *not* in the active practice, and who would "promise and swear" that he would never enter the practice of medicine while he swings the editorial pen of our popular Journal. Now, Doctor, how long would such an editor retain the confidence and respect of the members of our Association? The hollow echo answers: "How long?"

The absurd idea that THE JOURNAL must be moved to Washington to obtain a place in the Cabinet is ridiculous. The farmers were but recently represented in our cabinet, but I have no knowledge that a single one of them left his farm and moved to the miasmatic flats of the Potomac in order to secure this recognition recently granted by the federal government. Then why should we remove our Journal there to obtain the same recognition?

In speaking of the consciousness of Chicago as compared with the perception of Washington we desire to ask the Doctor if he was conscious of the fact, that Washington only had *three* railroads, which it is absurd to compare with Chicago with more railroads than any other city in the world? We will ask the Doctor if he is conscious of the fact that notwithstanding the extreme consciousness of Washington, that there is not a journal—either medical, religious, scientific, agricultural or of any other nature—that has prospered or attained a national reputation that was or is edited and published in Washington? Doctor, are you conscious of the fact that there is not a daily paper published at present, or that ever was published in Washington that has, or ever had a real good local reputation, saying nothing of a national reputation? Are you conscious of the fact, Doctor, that even the *Index Medicus* of which so much has been said, is published in Detroit, and that the *Annals of Surgery* is published in St. Louis, and even the *Therapeutic Gazette*, although edited in "The City of Brotherly Love," is also published in Detroit? But these are *private business* enterprises and are run on *business* principles, yet they don't seek the National Capital to insure their success. How strange! How passing strange, that you should insist on THE JOURNAL of our Association to assume business risks which not a prosperous journal of the country will dare to assume.

Again, the Doctor says: "If a general and hearty consent to the removal of THE JOURNAL from Chicago to Washington should have been agreed to, then the *general business management* of the organ, and its *editorial work* will become *most important* subjects of consideration."

Why not tell the truth Doctor, although you should shame the Devil, and say that *already* the editorial and business management, (should THE JOURNAL be removed to Washington) has been *bargained for*, and instead of the horse pulling the cart, in this apparent scramble "for the loaves and fishes" the cart, poor thing, is trying to pull the horse. In fact it really thought at *one time* it had pulled the horse!

Just think of it, a "club building," in the National Capital with its *three* railroads, leading to "our father's

house" where we will *all* be at home! (*when we get there*), many of us, however, only once in from one to five years, but for which we are *all expected* to pay our hard earned money just the same; to accommodate the erudite editor *without practice or experience*, who with his friends and followers are to *occupy* "our fathers' mansion from day to day, and issue out editorial instructions from week to week to the practical hard working Doctors of our National Association. What a sublime idea! What a brilliant conception!

Nor is this all. The Doctor wants us to raise an extra \$10,000 to carry out this pet scheme of removing THE JOURNAL to Washington. Surely he has never suffered, or at least, is not suffering now from a severe attack of conservatism regarding any prospective financial embarrassment of the Association or its Journal. These facts alone are sufficient reasons for keeping THE JOURNAL at Chicago where it has grown from a *dependent* child, to a *strong, robust self-supporting man*; and which never has and does not now seek to incur the Association with any "Club Houses," or \$10,000 loans with which to entertain, and pay for an impractical "supervising editor," who is expected to live in "our father's house" and fare sumptuously, every day, but who *must not practice* any for fear he loses some of his theoretical brain power, which must be kept in reserve to elevate the editorial standard of THE JOURNAL. Why, Doctor, don't you know that the very moment the American Medical Association decides to hold its annual meetings in any one city, I care not whether it be the "Queen City of the West"—Chicago, Washington, or San Francisco, just that moment the Association will commence to lose its membership, and will gradually succumb to the slow but fatal disease of inanition?

The sad fate of the National Board of Health should be a warning for us to steer clear of Washington with both the Association and its journal if we desire them to live out their natural expectancy of life. Are you not conscious of the fact that that august body was not only conceived, but born in the National Capital? Yet it soon came to an untimely end from a severe attack of federal marasmus. The political atmosphere of "our National Capital" soon withered this *once* promising offspring, which has long since passed the way of all the world. And yet, you would drag our now prosperous journal into these same death-dealing political fumes and hazard its chances for a long life and prosperity by so doing.

How unreasonable, how absurd it is to expect our National Journal to obtain a subscription list or an advertising patronage such as the *British Medical Journal* has now, in only seven years, when the latter journal has been thirty-seven years obtaining 15,000 members and subscribers, with an annual income of \$130,000, whilst we have only been *seven years* securing one-third the membership and one-fourth of the annual income. At this same rate the American Medical Association will only require *twenty-one years* to obtain a membership of 15,000, and less than *twenty-eight years*, the same annual income the *British Medical Journal* now has! or *sixteen years* less time than it required for the British Medical Association to obtain the same membership, and *nine years* less than it took the *British Medical Journal* to obtain the same annual income, and yet you have the audacity and gall to stand up before our Association and denounce the management of our Journal and condemn the place of its publication with all these cold facts staring you boldly in the face. Indeed, I am surprised and astounded at you, and the more I think of it the more maniacal it appears, until I am compelled to exclaim with Felix of old: Cornelius, "thou art surely beside thyself!"

R. HARVEY REED, M.D.

Mansfield, O., March 19, 1891.

MISCELLANY.

STATE MEDICAL SOCIETY MEETINGS IN 1891.—We give below a corrected list of State Medical Societies, with the name of the Secretary, and the place and date of meeting:

Ala., T. A. Means, Montgomery; Huntsville, April 14.
Ark., L. P. Gibson, Little Rock; Hot Springs, April 29.
Cal., W. W. Kerr, San Francisco; Sacramento, April 21.
Colo., H. W. McLaughlin, Denver; Denver, June 16.
Conn., N. E. Wordin, Bridgeport; Hartford, May 27.
Del., W. C. Pierce, Wilmington; Rehoboth, June 9.
Fla., J. D. Fernandez, Jacksonville; Pensacola, April 14.
Ga., King P. Moore, Macon, Augusta, April 15.
Ill., D. W. Graham, Chicago; Springfield, May 19.
Ind., E. S. Elder, Indianapolis; Indianapolis, June 10.
Iowa, C. F. Darnall, West Union; Waterloo, April 15.
Kan., W. S. Lindsay, Topeka; Wichita, May 12.
Ky., Steele Bailey, Stanford; Lexington, May 4.
La., P. B. McCutcheon, New Orleans; New Orleans, May 13.
Me., C. D. Smith, Portland; Portland, June 9.
Md., G. Lane Tennyhill, Baltimore; Baltimore, April 28.
Mass., F. W. Goss, Boston; Boston, June 9.
Mich., C. W. Hitchcock, Detroit; Saginaw, June 11.
Minn., C. B. Witherle, St. Paul; Minneapolis, June 18.
Miss., W. E. Todd, Jackson; Meridian, April 15.
Mo., J. C. Mulhall, St. Louis; Excelsior Springs, May 12.
Mont., J. W. Gunn, Butte City; Helena, April 24.
Neb., M. L. Hildreth, Lyons; Lincoln, May —.
N. H., G. P. Conn, Concord; Concord, June 15.
N. J., Wm. Pierson, Orange; Long Branch, June 23.
N. Y., E. D. Ferguson, Troy; New York, Oct. 28.
N. C., J. M. Hays, Oxford; Asheville, May 26.
Ohio, G. A. Collamore, Toledo; Put-in-Bay, June 17.
Ore., C. C. Strong, Portland.
Pa., Wm. B. Atkinson, Philadelphia; Reading, June 2.
R. I., W. R. White, Providence; Providence, June 11.
S. C., W. Peyre Porcher, Charleston; Anderson, June 9.
S. Dak., R. C. Warner, Mitchell; Chamberlain, June 10.
Tenn., D. E. Nelson, Chattanooga; Nashville, April 4.
Texas, F. E. Daniel, Austin; Waco, April 28.
Vt., D. C. Hawley, Burlington; Burlington, Oct. 15.
Va., L. B. Edwards, Richmond; Lynchburg, Oct. 27.
Wash., C. L. Flanagan, Olympia; Seattle, May 6.
W. Va., J. L. Fullerton, Charlestown; Fairmont, May 20.
Wis., J. R. McDill, Milwaukee; Madison, June 3.

POLICE SURVEILLANCE OF RAILROAD STREET CROSSINGS.—Anent the fact that in Chicago 105 persons were killed last year at railroad crossings of streets, *The Journal of the National Association of Railway Surgeons* editorially recommends police regulation of such crossings as are the most important, *i. e.*, such as have been found to be particularly hazardous from the activity of human traffic. Shut gates at railway crossings may prevent the passage of vehicles, but they do not stop many people from dodging around them and hurrying across the tracks in front of approaching trains.

STATE REGULATION OF PROFESSIONAL CONDUCT.—An Act has been passed and approved by the legislative authorities of Arkansas entitled: "An Act to Prevent Unprofessional Conduct in the Practice of Medicine." Sec. 9, of this Act reads as follows: "Unprofessional conduct for the purposes of this Act shall be held to be: First, The procuring, or aiding, or abetting in the procuring of criminal abortion. Second, Employing or using what are known as cappers, steerers or drummers, or the subsidizing of hotels or boarding-houses to procure practice. Third, The obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured. Fourth, The wilfully betraying a professional secret to the detriment of a patron. Fifth, All advertising of medical business in which untruthful and improbable statements are made. Sixth, All advertisement of any medicine or means whereby the monthly periods of women can be regulated or the menses reestablished. Seventh, Conviction of any offense involving moral turpitude. Eighth, Habitual drunkenness.

A COURSE IN HYGIENE.—A practical course in hygiene will be given this spring at Johns Hopkins University, under the charge of Dr. John S. Billings.

LETTERS RECEIVED.

Allegheny, Pa., Dr. J. S. Phillips.
Ann Arbor, Mich., Dr. W. A. Campbell.
Ansonia, Conn., McArthur Hypophosphite Co.
Artesia, Miss., Dr. N. D. Gentry.
Baltimore, Md., National Bank of Commerce, Dr. Geo. J. Preston.
Bedford Springs, Mass., N. Y. Pharmaceutical Co.
Boston, Mass., Dr. F. Irwin.
Braiard, Minn., First National Bank.
Catskill, N. Y., P. C. Lewis.
Chattanooga, Tenn., First National Bank.
Chicago, Ill., Dr. W. F. Coleman, Dr. H. M. Smith, Lord & Thomas.
Cincinnati, O., Dr. Coffman, Ohio Valley National Bank.
Cumberland, Md., Dr. F. T. McKaig.
Dallas, Tex., American National Bank.
Denison, Tex., American National Bank.
Detroit, Mich., Geo. M. Savage, Parke, Davis & Co.
Eola, La., Dr. P. B. McCritchen.
Evanston, Ill., The Evanston Bank.
Fort Dodge, Ia., Fort Dodge National Bank.
Fort Madison, Ia., German American Bank.
Fort Worth, Tex., Dr. A. P. Brown.
Grand Rapids, Mich., The U. S. Post Office.
Indianapolis, Ind., Dr. G. C. Fisher, Dr. E. S. Elder.
Joliet, Ill., Nemeck Bros.
Lacey, Ia., Dr. J. W. Green.
Las Animas, Col., Dr. G. E. Brown.
Miami, Fla., Clark, Forbes & Co.
Milwaukee, Wis., Dr. N. Scott.
Mirabel Point, Wis., First National Bank.
Mount Vernon, Mo., Mount Vernon Bank.
Newmarket, Eng., Dr. Geo. O. Mead.
New Orleans, La., Geo. F. Wharton.
New York City, L. H. Crall, J. F. Madden, Dr. P. A. Callan, R. A. Ward.
Philadelphia, Pa., Dr. R. J. Dunglison, Dr. A. L. Hummel, University of Pennsylvania Press, J. B. Lippincott Co., Dr. J. W. Holland, Dr. W. B. Atkinson.
Princeton, Ind., Dr. S. E. Minford.
Ravenna, O., O. D. Haven.
Red Jacket, Mich., First National Bank of Calumet.
St. Louis, Mo., Dios Chemical Co., A. M. Leslie Surgical Instrument Co., Battle & Co.
San Antonio, Texas, Texas National Bank.
San Francisco, Cal., J. N. Patton.
Southmayd, Texas, Dr. G. V. Hale.
Stockton, Cal., First National Bank.
Walpole, N. H., Dr. W. B. Porter.
Waterloo, Ia., Dr. D. W. Cronse.
Wessington, Dak., Dr. J. Chancellor Gilbert.
Wilkesbarre, Pa., Dr. Maria Gibson.
Winstow, Ill., Dr. J. B. Goddard.
Yonkers, N. Y., Dr. Jas. A. Stenart, Dr. E. Schopen.
Youngstown, O., Dr. M. S. Clark.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 14, 1891, to March 20, 1891.

Capt. William C. Shannon, Asst. Surgeon, now on duty at Ft. Apache, Ariz., will repair to this city and report in person to the Adjutant General of the Army for further orders. By direction of the Acting Secretary of War. Par. 5, S. O. 55, A. G. O., Washington, March 11, 1891.
Capt. Henry P. Birmingham, Asst. Surgeon, is granted leave of absence for one month, with permission to apply for an extension of one month, to take effect upon arrival at Boise Bks. of First Lieut. Robert R. Ball, Asst. Surgeon U. S. A. Par. 2, S. O. 39, Dept. of the Columbia, March 13, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending March 21, 1891.

Medical Director C. J. Cleborne, detached from Naval Hospital, Norfolk, Va., and to Naval Hospital, Chelsea, Mass.
Medical Inspector T. N. Penrose, ordered in charge of Naval Hospital, Norfolk.
P. A. Surgeon John M. Steele, detached from Coast Survey Str. "Bache," and granted three months' leave of absence.
Surgeon James H. Gaines, placed on Retired List, March 18, 1891.
Surgeon M. I. Ruth, granted a month's leave from April 2 next, with permission to leave the United States.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending March 14, 1891.

Surgeon W. H. Long, granted leave of absence for seven days, March 13, 1891.
Surgeon H. W. Anstin, to proceed to Baltimore, Md., for special duty, March 14, 1891.
Surgeon John Goddard, detailed as chairman of Board for physical examination of officer of Revenue Marine Service, March 4, 1891.
P. A. Surgeon C. E. Banks, to proceed to Boston, Mass., on special duty, March 7, 1891.
Asst. Surgeon T. B. Perry, leave of absence extended thirty days, March 13, 1891.
Asst. Surgeon E. R. Houghton, detailed as recorder of Board for physical examination of officers of Revenue Marine Service, March 4, 1891.

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THE

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NO 14.

ORIGINAL ARTICLES.

ETIOLOGY AND TREATMENT OF TYPHOID.

BY A. L. WAGNER, M.D.,
OF SOUTH BEND, IND.

Some of the matter contained in this discourse may seem irrelevant, but it was impossible, without some prelude, to make my meaning clear. It strikes me that physicians do not stop often enough to consider the significance and cause of symptoms in disease. Why does not one in sickness go on to recovery or to death without any such manifestation as a symptom? As compared to the time since the creation of man the short period that our profession has been able to render any service to mankind is but a day. These same symptoms were manifest in the systems of the preglacial man and long before they could be interpreted or associated as they now are. Are they then, as now so generally accepted, simply the signs of disease, the perverted and morbid conditions signaling to the physician to annihilate them and thus cure the disease which they, in the aggregate, are supposed to represent? Nature is, undoubtedly, always conservative. She will never kill one of her own creatures, and if disease attack the system of one of them she is up in arms at once to protect him. What are commonly called symptoms are Nature's remedies for the disease in which they are seen, or they are conditions, or collections of conditions following her remedies.

Now I wish to show that in a given disorder there are symptoms and sets of symptoms or signs, which are essentially different, and though speaking in the same tongue are dwelling upon a different topic. For example, and a more thorough study of disease, it seems rational to divide symptoms as follows:

1. Those symptoms that are due to or really are the morbid materials, *e. g.*, the hæmatozoa malaræ of Laveran, in ague, or the alkaloidal ptomaines in the diseases due to germs.

2. Those that are Nature's remedies and which are directed toward the destruction, removal or the modification of any foreign substance which

is incompatible with natural function. Nature's remedies are her only resources, and they differ to a great extent from those the physician can exhibit; but if the cause of the disease is to be removed and recovery to take place the physician must follow in Nature's lead or else leave her untrammelled in her efforts to relieve the sufferer. In typhoid fever this set of symptoms comprises elevation of temperature to burn out or oxidize the typhoid poison, and an antiseptic diarrhoea to prevent the growth of the *B. typhosus* and to remove the germs from the bowels. In tuberculosis these symptoms are fever for oxidation, expectoration to rid the economy of the poisoning material and profuse perspiration to wash out the oxidized products from the system.

3. The symptoms of this class might properly be called concomitant, as they occur as a sequel, not following in the wake of, but rather accompanying, the symptoms above. These represent the effect of Nature's remedies or the cardinal symptoms, and they are not directly curative. In phthisis we have wasting of tissue from the hectic fever, hæmorrhage from ulceration through the vessel wall in the lung. Here hæmorrhage and wasting are symptoms but they are not of any utility to the patient; they represent the effect of the remedy that Nature applies in the one instance, and the effect of the presence of the first class of symptoms, in the other. In typhoid this class is represented by the peculiar smell of the dejections, muscular debility, hæmorrhage, borborygmus, coated tongue, etc.

4. This class is due to the remedies the physician applies, and are very much more variable than those preceding, for the reason that the physician is more inconstant than Nature in prescribing. These symptoms are the physiological actions of the drugs administered. The first class given is no doubt not symptoms in reality but pathological indications, and represent the cause of disease.

Therefore, from the foregoing, *a symptom is a modified physiological function brought about for the better adaptation of the system to rid itself of a foreign and irritating substance.*

I here introduce this definition to accentuate the fact that what is commonly called a symptom is a modified physiological function, and that this

modification is brought about to meet the conditions arising from a morbid substance in the economy. If this is brought about to meet such condition, and it manifestly is, then we must accept the fact that what we speak of as symptoms are apparent (*i. e.*, easily seen) conditions or safeguards thrown out by the system, actuated by its "cell sense," to do battle against the foe.

My purpose in thus classifying symptoms is to show those symptoms that it is safe to combat; those that it is safe to augment, and those that it is safe and wise to ameliorate. In all cases we know that it is safe to remove or combat the cause. In typhoid the germ must be removed, and Nature is trying to do this by a diarrhoea of a peculiar kind. Then combat the cause by augmenting the remedy, diarrhoea. Look to it that this is not hampered by what I have denominated concomitant symptoms, tympanites, coated tongue, hæmorrhage, debility, etc., by correcting or assuaging them. My purpose in considering the fourth class as symptoms in any given disease, is for the better illustration of the preceding classes and to elucidate what I consider the true definition of a symptom.

For example, a lethal dose of morphia is administered; this is the disease. Deep sleep, insensibility, heart failure, failure of respiration, clammy skin, vomiting at the outset, great irritation of the skin (itching), especially of the nose and lips. These are concomitant symptoms. Now, this is a lethal dose, and strikes down with overwhelming force the centres and lines held in the hand of Nature as surely as a pistol ball would; but, notwithstanding, Nature reveals the line to be followed. The indications are but short lived, and are only to be noticed for a limited time after the dose is administered and are known collectively as the stage of stimulation, in which the temperature is elevated, arterial pressure increased, renal elimination hurried, respiration accelerated and, frequently, emesis. These are Nature's remedies, but they are not strong enough to ward off the trouble and the system sinks; but if a patient recover from a poisonous dose of morphia this sequence of symptoms must be prolonged.

In typhoid fever the germ *B. typhosus* is the cause; the alkaloid typhotoxine is the disease; fever, diarrhoea, anorexia and lassitude are the cardinal symptoms of Nature's remedies, and furred tongue, debility, tremors, etc., the concomitant symptoms, or the results of the *vis medicatrix nature*.

Etiology.—Geographical location, climate, season, age and diet are predisposing causes. It is with the last only that I wish to deal in conjunction with the direct exciting cause, the Koch-Eberth germ *B. typhosus*. After a case of typhoid in 1882 I began the investigation of the disease and its causes. This case was that of a Polish youth, and I did as many a more learned

physician has done before me, made a mistake in the diagnosis. Being fresh from college, and full of J. Milner Fothergill's "Indigestion and Biliousness," the trouble was pronounced subacute biliousness and was treated accordingly; but the fever continued, and though better, my patient did not recover as he should had it been a simple bilious attack. On the tenth day, in company with another physician, the diagnosis of typhoid was pronounced. From the fact that my patient had grown no worse the cholygogue treatment was continued, and on the sixteenth day we were pleased to see the temperature normal, and after this convalescence supervened rapidly. My next cases were treated on the same line and inquiry into the cause was instituted. It will be observed that the stools in enteric fever are dark greenish-brown, which I attribute to the presence of bile, and knowing that occlusion of the bile ducts permits a peculiar decomposition of the intestinal contents, I arrived at the conclusion that the presence of bile in the gut destroyed the typhoid germ in some manner, and consequently the absence of bile would favor the growth of the bacillus. Careful inquiry has been made in all my subsequent cases and symptoms of profound biliousness have been uniformly noted. If we but compare the symptoms of hepatic congestion and the prodromes of typhoid, we cannot but note their similarity. In both we have, in the language of Loomis, in his "Practical Medicine," "a grumbling headache, more or less aching of the limbs, a tired feeling all over, chilly sensations, flashes of heat and anorexia;" then we may have a slight diarrhoea, and always in the beginning a yellowish-white coat on the tongue. Listen for a moment to Murchison: "The symptoms of deficient excretion of bile are irregular bowels, colorless stools, loss of appetite, yellowish fur on the tongue, bitter taste in the mouth flatulence, languor, disinclination to exertion, great depression, frontal headache and heaviness." Fothergill adds: "I am so tired and sore all the time; as tired on awaking as retiring."

There is no doubt from the experiments of Charrin and Roger that bile is an antiseptic of no mean magnitude. They have shown that some of the components of bile are more energetic than others, especially were the tauro-cholates shown to be effective antiseptics. The bile salts as above were more powerful than bilirubin. Bufallin gives us the same results. Fothergill says, "the bile coloring matter and the bile acids go together, where the one is the other is not far away." Taurocholic acid ($C. H. NO S$) contains sulphur and is more profuse in the presence of bilirubin. When the fur on the tongue is most brown from the staining of its epithelium with the bilirubin, the taste is the most bitter from the presence of the taurocholate of soda. This shows that when the tongue is thus coated the liver is not acting and

that there is no bile being poured out into the intestine.

Desiring to ascertain whether bile has any antiseptic action on the typhoid germ I obtained a pure culture from one of my cases. From this I inoculated twelve halves of boiled potatoes. After twenty-four hours a few drops of carefully prepared ox bile were applied to the cultures. This was repeated for three days at intervals of six hours and the cultures made no further material progress, and on the seventh day were about as much developed as the untreated cultures were on the third day. Four others were treated with the bile after fifty-six hours, at which time the cultures had made considerable progress, and although the cultures continued to grow the growth was very slow, and on allowing the bile to drain off and dry, the germ growth did not continue. All the cultures emitted, in a very marked manner, the characteristic odor of the typhoid stool.

My second and third experiments were on six potatoes and six test tubes of nutrient gelatin on which were used fresh specimens of ox bile. These served to confirm the first experiments, but in a more positive manner. The cultures that were treated within the first twenty-four hours exhibited no growth whatever for many days.

The conclusions to be drawn from the above are: 1. Bile destroys or at least retards the growth of the *B. typhosus*, and apparently does so by retarding sporification; 2. It is reasonable to suppose that bile is excreted in larger quantities, coloring the stools and aiding peristalsis to rid the bowels of the germ; 3. If the above are true, then in the absence of bile in the bowel the germ would find no restriction to its growth and multiplication, and the diet that would produce biliousness would be a predisposing cause of typhoid; 4. If bile destroys the germ it must be one of Nature's remedies and should be encouraged to flow. It is generally stated that the most dangerous cases of typhoid are those in which the bowels refuse to act. In those cases where there is a profuse diarrhoea which is indicative of great irritation of the mucous lining of the bowel from the presence of the germs, the diarrhoea can be most easily checked, when in the early stage, and there is no reason to suspect much glandular necrosis, by a gentle cholagogue cathartic. Bile, then, is one of Nature's remedies.

The Cause and Use of Febrile Movements.—Before there can be a rise of temperature there must be a derangement of the thermotaxic function of the system. That is, the avenues for the escape of heat must be unstable and heat loss be less than heat production. Now if this alone constituted the phenomena of pyrexia the subject would be a simple one indeed, and all that would be required would be to aid radiation and conduction of the heat. But Wood and Reichert

have shown that the matter does not end here, for a high temperature may be present with a great amount of heat-loss going on, and by their calorimetric researches they have, with Donald Macalister, shown that the thermogenic function may be actively excited, and the sublingual temperature be little more than normal, or there may be little excitation of the thermogenic centre and a very high sublingual or rectal temperature, provided the conduction and radiation of heat be abolished or hindered. The significance of this is stated by Macalister (*British Medical Journal*, Vol. 1, 1887, page 566), as follows: "The processes which issue in motion on the one hand and thermogenesis on the other are associated with chemical movements in the muscle, with metabolisms, whose terminal steps are accretion of oxygen and excretion of carbonic acid and water. Both the contractile and the thermogenic stuffs are stored in the muscles but are not the same, but as far as function goes they are the muscle. Each can be exhausted, the thermogenic sometimes sooner than the contractile. Both are up-built by the circulating blood, but in some cases the contractile stuff sooner than the thermogenic. Both are affected by cold, but the thermogenic much sooner and more intensely than the contractile. We know but little of the chemistry of these metabolisms. Oxygen is taken up in each, and carbonic acid is eliminated, but the processes passed through between these terminal stages are more complex than simple oxidation. *This in health; but if the reconstructive part of the process is inadequate or absent, the balance of accounts will give evidence of a nitrogenous residuum which is marked. The muscle substance will appear itself to be consumed; it will no longer be what I might call the circulating medium of consumption.* The cast-out muscle molecules are not excretory in the same sense that carbonic acid is excretory. *In fever the nitrogenized substance of the system have been consumed, and for some reason.*" Will we say that this substance has been consumed by the fever, or will we say that the fever has been fed by this combustible substance? Macalister again says (*ibid.*): "Some of the figures show that as the course of the temperature varies, the rate of heat production may actually be highest when the temperature is lowest, an excessive rate of heat-loss overbear, and thus disguise a simultaneous excessive rate of heat production; and conversely, the time when the temperature is high may coincide with a time when the heat production is low."

If this tissue metabolism goes on regardless of the height of body temperature, then there is some other reason beside elimination, or rather the lack of elimination, for this heat being present. It is reasonably demonstrated by physiologists (Wood, Foster, Hale-White, Reichert), that there is a nervous centre which regulates the

production of heat in the animal body, which they call the thermotactic centre. If this be excited, or rather stimulated, heat production is in excess; if it be depressed the usual thermogenesis does not occur. Now if this be true, is it, or is it not similar to the centre governing respiration, and when its function is most needed is it not called into the field of action there to do its duty? When the tissues need rebuilding they send out a dispatch over their telegraph lines to the central office, the brain, for food, and the central office again wires the commissariat, the stomach; and if there be no stores on hand it is here that the desire for food is felt. The tissues feel a need of oxygen. The message is flashed to the brain and thence onto its switch-board, from whence the message is conveyed to the respiratory centre which notifies the lungs to rapidly fill and empty themselves. Why do these dispatches have to be sent out? Because there is some obstruction to physiological function, and this substance must be something useless to the economy. Where there is a demand on the respiratory centre the offending material is carbonic acid gas. In the case of hunger the presence of the materials of retrograde metamorphosis is in excess of the building materials, or perhaps more accurately, there is felt the desire for more strength through more protoplasm, blood, chyle, food. If there is any offending material in the system which it is Nature's intent to burn out or oxidize, the alarm is sent to the centre governing the heat production. The thermogenic stuff is there in the system; and then comes the call for more oxygen. The conflagration goes on and the material is oxidized, and perhaps thus rendered wholly inert. What benefit then is to be derived from measures directed toward aiding evaporation, or radiation or conduction of the heat away from the body through the skin? It is true that some of the offending matter may be thus washed out of the system through the pores, or the immediately contiguous atom to the one being oxidized may be cooled off to await combustion on another day; but the material is there to be consumed and the tissue must be sacrificed to do it, for it matters not whether there be a high sublingual temperature or not, the consumption of the thermogenic and the contractile stuffs is progressing. It would be far more rational to prevent the irritating substance from entering the system, or where this is impossible from lack of accurate, scientific knowledge, to conserve the tissues, as we can do by furnishing something to the system easily oxidizable which would be burned in preference to the tissues.

By experimenting with bacteria it is ascertained that there are particular temperatures at which they thrive and grow, at which they cease to segregate and sporify, and at which they die.

The temperature at which they grow most luxuriantly is between 96°-99° F., that at which they cease to segregate and sporify is 111°-114° F. The most of them die outright at a temperature of 150° and the spore dies at 212°-220° F. You say then that the temperature has nothing to do with the germ in fevers, and only apparently makes it grow more rapidly. Granted that you may be right, but, let us inquire.

When the sublingual temperature is 98.6° F. the temperature in the hepatic vein is 103°-107° F., and if the sublingual rise to 105° we would have the hepatic temperature of 114° F. This of course will not kill the germ, but it is very effective in preventing multiplication by fission and sporification. Pasteur, Koch, Breger, Eberth and others tell us that the B. anthracis is not in the circulating blood but one or two hours before death ensues from its presence. Breger tells us the same thing also regarding the B. typhosus, when it is then also in the spleen. When the germs once enter the blood there is nothing to prevent their rapid multiplication except high temperature, which being interfered with, permits death to quickly ensue. Nature makes one final effort; the outlets for the escape of heat are closed, and an intense conflagration is lighted up in the body furnace, but it is then perhaps too late and the patient is said to have died of hyperpyrexia.

Again, the disease is not the germ but the ptomaine manufactured by the germ, and at certain temperatures it is rendered inert (Breger), or is formed into a less harmful product, which is perhaps excreted as a leucomaine, or else it is not formed at all. For instance, if in nutrient peptone broth cultures of B. typhosus remain at a temperature of 102.2° F. for twenty-four hours there will be no ptomaine, typhotoxine, formed, but in its stead there will appear creatine, a leucomaine of less harmful tendencies. Now how can we, in the face of the fact that the temperature of the liver is almost constantly 105° and the temperature requisite to convert typhotoxine into creatine is only 102.2°, say that pyrexia is not a remedy instead of a symptom, and that it ought to be interfered with? But hyperpyrexia? It will not occur if nature be aided in other quarters.

For two thousand years physicians have been engaged in a wild, hurried and anxious rage to discover some new remedy to combat fever. They have had tartar emetic, digitalis, aconite, veratrum, quinine, salicylic acid, antipyrin and acetanilid and still the fever goes on. We are told that the fever must be lowered or the patient will die. I do not believe that high temperature ever killed anyone. But we are told that the patient cannot live long with a temperature of 106° or 107° F. Of course they cannot; but this is no proof that they expire from hyperpyrexia.

When the fever suddenly flashes up to such dangerous height it indicates that the system's bulwarks have been overthrown, and that the germs are invading the blood and tissues generally, or more frequently it denotes a great influx of the alkaloids or the albumoses into the system, which immediately begins to burn them out, because they are there in large enough quantities to stimulate excessively the thermogenic centre. The larger the dose of typhotoxine injected under the skin the higher the temperature will run till a certain limit is reached, when the irritability of the thermogenic centre becomes exhausted and the temperature falls below the normal. If the above be true why do we ever give an antipyretic in typhoid that we have had under our care from the first? And above all, why is it ever necessary to give a cold bath? Cold bathing and a milk diet is the present treatment. Do we expect to depress the temperature below the growing point of the germs or the forming point of the ptomaine? The remedy is a good one in its place for it acts as a tonic to the system, and by contracting the surface arterioles it flushes the capillaries of the internal organs, and thus retards the absorption of the poison which is being manufactured in the bowels. It also possibly aids the elimination of the ptomaine already in the system. But all the previous methods of treating typhoid have required from four to six weeks for recovery. Now if a treatment that allows of a normal temperature in from ten to sixteen days be advanced, why still advocate an unnatural method of treatment that loses two or three weeks of the patient's time?

We do not now expect to cure ague with quinine by depressing the temperature, but by killing the hæmatozoa malarie of Laveran. Quinine is absorbed and circulates along side of the organism and destroys it by attacking its protoplasm. The B. typhosus is not in the blood till late in the disease, but exists by the million in the bowels and faecal matter. By actual experiment it has been demonstrated that bile kills or stunts them; shall ice baths and milk diet be ordered, or shall a cholagogue be exhibited?

Since mercurials are not cholagogues in reality, but serve to stimulate the liver and thus eliminate bile more rapidly than any other means at our command, it is preferable, since bile is in excess in the system and only needs to be eliminated, to begin with some mild preparation of mercury, such as calomel. This is administered for the first two or three doses in two- or three-grain powders, then the next six or eight doses in one-half or one-fourth grain doses, and then for six to ten days one-tenth of a grain at a dose every three or four hours. About the fifth or sixth day the salicylates, turpentine or salol which really cause a greater formation of bile, will be

of service in combination with the calomel, to the case. If the case is seen late and there is a very high temperature to combat, with great depression and wasting, conserve the tissues with alcohol. It is possible that the calomel may act directly as an antiseptic on the germs, but I have had quite the same results with the administration of podophyllin. Out of fifty-two cases that I have thus treated I have not observed one instance in which there appeared salivation. Of the fifty-two cases there were none that were not free from fever on the seventeenth day, and only one that ever had a temperature of 103.5° F., and he called me on the fifth day that he was confined to his bed.

Apropos of the action of bile on the intestinal contents and the utility of the cholagogue treatment set forth above, it might not be untimely here to say that the same comparative results obtain in treating summer diarrhoea of children in the same manner. Podophyllin, calomel, salol and turpentine continued, with an occasional dose of coto, have produced most brilliant results, and I apprehend that Dr. Boardman Reed's experience (*Practitioner*) in checking diarrhoea with podophyllin is a like result.

102 So. Michigan St.

SOME OF THE LESIONS INDUCED BY TYPHOID FEVER.

Read before the Cambridge Society for Medical Improvement, February 23, 1891.

BY AUGUSTUS P. CLARKE, A.M., M.D.,
OF CAMBRIDGE, MASS.

Perhaps no disease whose records have been embodied in medical literature is attended or followed by a greater variety of lesions than is that of typhoid fever. The functions of the great nerve centres, including the brain and spinal cord, as also those of the nervous system generally, are liable to be seriously influenced, weakened or interrupted, for periods of uncertain duration, by the occurrence of an attack of typhoid fever.

Among the sequels or complications that have been observed is dementia, insanity, loss of sight, aphasia, paraplegia and other forms of paralysis. Sometimes only one limb, as a leg or an arm; rarely, only an arm and a leg at the same time. At other times disturbances are limited to the functions of speech. Cases now and then occur, in which we have paralysis without appreciable anæsthesia. The more common forms are those in which both the motor and the sensory portions of the nerve are involved. Neuritis beginning at the peripheral portions of the nerve is not an uncommon sequel of typhoid fever. Another complication of typhoid fever is pneumonia. This is often of a limited extent, but occasionally it is more or less diffused. Perhaps the particular

position which the patient assumes during the first illness in the fever may have a controlling influence in the extent and severity toward that sequel of the disease. Formerly much was said in reference to pneumonia as a complication of disease. Such attacks of pneumonia were called "hydrostatic," from the supposed influence position of the patient exercised in favoring the gravitation of the blood and other fluids to the more dependent portions of the parenchyma of the lungs.

In my own practice I have met with three well marked cases of aphasia occurring in typhoid fever. The patients were young; their ages being 12, 14 and 17 years. The aphasia in each case occurred after the second week of the fever. The temperature had been unusually high, and much exhaustion had ensued. No paralysis, nor other morbid process of the nerves occurred. The patients at length fully recovered.

The record of the following case presents an affection of the eye: Mrs. B., aged 31 years and mother of three children, had the characteristic symptoms of typhoid fever, such as epistaxis, rose spots appearing on the seventh day following the initial chill. The patient had been very delirious, and had become much exhausted. After the fifth week she complained of pain in the eyes, more especially in the left one. Ophthalmoscopic examination revealed neuritis extending to both discs. After the temperature became normal she suffered from perversion of the senses, and at length became partially insane. There was no history of renal trouble, the urine at that time contained only traces of albumen. The patient finally recovered without sustaining permanent loss of vision.

Disease of the optic discs following typhoid fever is mentioned by Dr. Oglesby,¹ of Leeds. That author says that he has never met with a case without a distinct history of meningitis. "The majority of those patients," he says, "present objective symptoms indicative of acute kidney mischief, having a decided appearance of cellular dropsy of the face, with the usual pallor of such cases. It is very exceptional that albumen is found in the urine."

I have records of a case of severe laryngeal inflammation, following typhoid fever. The case occurred six years ago, in a man aged 42 years. The typhoid symptoms were quite characteristic. The morning decline, and the evening increase of temperature prevailed throughout the attack. From the onset there had been much delirium, also tympanites and a profuse diarrhoea. After the fourth week the patient showed decided improvement. On the fortieth day a dyspnoea ensued, though there was but little cough and no cardiac disturbance. For the next two weeks the symptoms were more se-

rious. The respiration became more and more difficult, and at length the patient appeared in imminent danger of suffocation. The late Dr. A. F. Holt saw with me for several times the case in consultation. It being evident that there was an abscess which was extending into the laryngeal perichondrium. On the sixty-first day operative measures were decided upon. By the use of cocaine we were enabled to reach the abscess without the necessity of resorting to laryngotomy. The patient ultimately recovered, though there remained a laryngeal stenosis. Two years later the patient died of acute pneumonia, hastened, no doubt, by the laryngeal constriction.

I have notes of four cases of pneumonia occurring as sequel or complication of typhoid fever. In one case in which the typhoid symptoms were well pronounced, pneumonia developed in the third week and led to a fatal termination. This occurred in a female aged 18 years. For some two years previous to the occurrence of her last sickness she had suffered from impaired health. In three cases the patients were aged respectively 17, 20 and 29 years. In two of the cases the area of dulness was limited. In the third case the whole of the right lung was involved. The patient did not recover until the fourth week after the onset of the pneumonic symptoms.

In a case of typhoid fever occurring in a woman aged 34 years, the mother of two children, acute pleurisy developed in the sixth week. There was marked dulness on percussion over the right side, also egophony and absence of vocal fremitus of that side except at the upper third. The effusion was moderate in amount. She recovered with slight retraction of the chest of that side. Two years later phthisis supervened, from which she died within eighteen months.

In one case of typhoid fever occurring in a man aged 41 years, facial erysipelas made its appearance on the forty-first day after the beginning of the febrile symptoms. This complication ran into the ninth week, causing an abscess of the scalp just back of the forehead.

Another complication I have met with is that of parotiditis. This occurred in the case of a man aged 37 years. The attack of typhoid in the patient was of a severe type. Inflammation of the right parotid began on the tenth day after the initial symptoms of the fever. Hope in the patient's recovery was entertained until the twenty-fourth day. Soon after that the patient rapidly sank, and died three days later. Suppuration of the parotid did not take place. The inflammation, however, extended into the cervical and axillary glands. This was the most marked case I have ever met with, in civil practice.

I recall cases occurring in the Spring and Summer of 1862, during the Peninsular campaign. At that time the occurrence of an affection of the parotid in a typhoid case was regarded as an ex-

¹ Boston Med. and Surg. Journal, Vol. cviii, p. 476.

tremely dangerous complication. Some forms of paralysis after typhoid fever have been reported by Dr. Ross.² Dr. Ross mentions two cases; in one case there was severe paraplegia attended with much pain, rigidity, and wasting of the limbs, but with no anesthesia. In the other the paralysis was unusually extensive, involving all the limbs, also the muscles of the palate. Both cases ended in recovery.

A case of paraplegia after typhoid fever occurring in my own practice was that of Mr. S., aged 29 years, a teacher in a Boston school. The fever had not been unusually severe, though the symptoms were well pronounced. After the fourth week the temperature became normal. The patient in other respects was also much improved, except that there was pain in the limbs and an inability to use them. The patient at first was unable to stand. Ten days later he was able to get about his room, with a sort of shuffling gait. Some weeks later he fully recovered and was able to resume the duties of his school.

Two cases affecting the muscles supplied by the circumflex nerve I have met with. One, a case of a child aged 6 years, occurred in my own practice. The other, a case of a man aged 21 years, occurred in the practice of the late Dr. Church. This case I saw in consultation. Each patient finally made a good recovery.

Two years ago I was called to attend a child aged 7 years, who had recently recovered from an attack of typhoid fever, and who was suffering from partial loss of speech. The palatal muscles were affected. The paresis resembled that supervening after diphtheria. The history of the symptoms clearly showed that her condition was the result of typhoid fever. She afterward greatly improved. I am now unable to state whether she ever fully recovered.

Two cases of periostitis occurring in typhoid fever have come under my treatment. The first patient, J. O., a girl aged 9 years. She suffered from typhoid fever upwards of three weeks. She was then able to be up and about her room. Six days later she was seized with a relapse which lasted nearly four weeks. The evening temperature was unusually high, there was much delirium. The patient refused all kinds of nourishment except milk and the stronger stimulants. The latter she took in abundance. After the fourth week of the relapse, her left elbow-joint became greatly inflamed and was much swollen. Suppuration of the elbow-joint ensued, necessitating a deep incision into the joint, and a large amount of pus was evacuated. Several places in the periosteum of the ulna from elbow to wrist were the foci of suppuration; indeed, the whole shaft of the ulna was involved. The first abscess appeared in the periosteum near the left olecranon, and involved the elbow-joint. An abscess also

appeared on the opposite side of the joint. Both these abscesses communicated with each other. An inch below and more to the inside was a third abscess. On the same line and an inch below the first was a fourth abscess. Another formed midway between the other two. Another occurred in the middle third of the ulna. Another, the seventh, opened near the wrist, but fortunately did not involve the joint. From time to time several pieces of necrosed bone were discharged through the open sinuses formed by the suppurative processes. This patient finally recovered with a stiff elbow-joint. Dr. H. O. Marcy, and also Dr. Geo. H. Lyman, of Boston, saw the patient while she was suffering from the effects of the periosteal inflammation.

There was a peculiar interest attached to this case, as a suit by the parents was brought to recover compensation for the child's sickness and also for the loss of use of the arm. It appears that the mother, a short time immediately preceding the attack of the typhoid fever, was employed to do special work in a family in which there occurred a fatal case of typhoid fever. Without being informed of the dangers incident to such service, the mother returned to her own home, carrying from the sick-room a piece or pieces of bedding to be washed. Not long after this her own daughter, J. O., was seized with typhoid fever with results as above stated. Had the case not come to a settlement without a trial, some of the most important points relating to the responsibility of families to domestics would have been urged in the prosecution for judicial consideration.

The other case occurred in a lad, H. M., aged 13 years. The history of the case shows that he had studied hard at school; that often he had been out late at night to fulfil engagements as cornetist. When I was called, February 7, the patient showed the characteristic symptoms of typhoid fever. He had epistaxis, tympanites, headache, delirium; later rose spots, evening temperature higher than the morning. After the third week the typhoid symptoms abated; the patient was able to leave his bed. His recovery was soon interrupted by repeated chills, each chill being followed by a greatly increased temperature and an exacerbation of the other constitutional symptoms. In the right thigh, just above the knee, there was a most intense pain. Soon much swelling at that point developed. March 14, with Dr. H. O. Marcy's concurrence, I made a deep incision into the swelling and obtained a free discharge of pus. By liberal use of antiseptics and the drainage tube, the patient at length fully recovered without appreciable injury to the knee-joint.

On reviewing the history and symptoms of this case it might appear at first that the constitutional symptoms were wholly due to inflammation

² Braithwaite, part 97, p. 30.

of the periosteum, as there was a history of a fall upon the knee. The initial symptoms, however, from which the patient suffered were typical of typhoid fever; beside, after the third week there was for awhile an intermission, or rather cessation of the constitutional disturbance.

J. O. Affleck,* M.D., reports three cases of periostitis in typhoid fever. These cases appeared in a total of 117 cases which were under treatment in 1884 (in the typhoid wards of the Fever Hospital of the Edinburgh Royal Infirmary). Two of them occurred in young men, aged each 21 years. One of them had periostitis commencing in the right tibia in the third week of the fever. This produced a recrudescence of the fever, and prolonged the case for four weeks, but the patient made a good recovery. The other showed symptoms of marked periostitis in the right humerus in the third week, and this was followed by a similar condition of the right tibia. Convalescence was slow, and after the periostitis had apparently departed, it reappeared in the right humerus, and an abscess formed. The patient ultimately recovered. The third case was that of a girl, aged 9 years. The attack reduced her to such a degree of exhaustion that, for a time, it seemed scarcely possible she could survive. In the fifth week, and just as the temperature had begun to subside, she was attacked with periostitis of the right humerus, which set up fever again and caused her intense suffering. Contrary to expectation, she recovered. No abscess formed, but the painful swelling of the shaft of the humerus continued for full six weeks from its appearance. Dr. Affleck refers to Sir James Paget's observations that periostitis with or without necrosis may be enumerated as one of the sequels of typhoid fever. Sir James had seen such cases when they occur only at advanced stages of convalescence, and when the patient was regarded as free from fever. Dr. Affleck says that periostitis may occur at the height of the fever, or when convalescence has no more than begun; that such a morbid condition may be regarded as a complication no less than as a sequel of typhoid fever.

Among a few of the more serious sequels which are liable to arise in typhoid fever is softening and degeneration of the tissues and organs belonging to the circulatory system. Cardiac thrombosis, emboli of the larger, and embolic occlusion of the smaller branches of that system, are not very uncommon occurrences of the typhoid state. Affections of the heart from such a cause were long since described by M. Louis, and also by earlier observers. Variation from the typical diurnal temperature is another peculiarity which is sometimes observed. Quite recently, in a case of typhoid fever occurring in a man aged 31 years,

there was a morning increase, and an evening decline in the temperature. The patient had been greatly exhausted from overwork, and from a diarrhoea which supervened at an early stage of the fever. The diarrhoea, however, was readily overcome. Delirium from the first stage was unusually marked. Though the patient was able to take a liberal amount of nourishment, including milk, broth and even stimulants, he had but a feeble and compressible pulse. He gradually lapsed into a cyanotic state, and died apparently of cardiac failure (if such a failure from such a cause ever occurs), in the fourth week of the fever.

In regard to the etiology of the sequels and complications of typhoid fever, it may be remarked that the typhoid bacilli and their ptomaines produce such changes in the tissues as to diminish their resisting power. The osseous tissues, as also the parenchyma of the lungs and of the other parts of the organism, being subjected to such influences, are thereby more easily invaded by the pyogenic and septic cocci. These invading elements, under such conditions, induce sooner or later, in one or more of the various tissues, an irritation, inflammation or suppuration. The severe and prolonged pyrexia also interferes with the nutrition of the nerves. This undoubtedly leads, occasionally, to dementia, insanity, and to cerebral affections generally; also to disturbances of nerves, sometimes at their origin, sometimes along their branches, and sometimes only at their periphery. The presence of such lesions and their extent will depend, no doubt, largely upon the susceptibility of the patient, the degree of exhaustion of the nutritive functions, and upon the nature, potency, and perhaps quantity of the invading cocci.

LECTURES.

EMPYEMA.

A Lecture delivered at the Post-Graduate Medical School, Chicago, January 21, 1897.

BY BAYARD HOLMES, M.D.,
OF CHICAGO, ILL.

No surgical procedure is so little studied and so often overlooked with such deplorable consequences as empyema.

One of my neighbors, who is quite deaf, recognized a case of right-sided empyema in a man 36 years old, and sent him immediately to one of our large hospitals. He remained in the hospital three weeks and was discharged to die of phthisis. My deaf neighbor was surprised that the true condition was not recognized, and fearing he had made a mistake, he drew out a syringe of pus with his hypodermic. Thus satisfied as to his own diagnostic acumen he took care of the patient and "promoted euthanasia."

* Braithwaite's Retrospect, part 92, p. 27 (British Medical Journal, 1885).

Numerous instances have come to my knowledge when cases have not been recognized; others where, though recognized, proper and adequate treatment has not been instituted and others, though recognized and properly treated at first, the same degree of logic and skill has not been followed out in the subsequent treatment.

As an instance of the first kind I will mention a case which was observed in a man who was discharged from the Kaukahee Insane Asylum to die from phthisis. This man recovered without any inhalations or injections in a remarkably short time, both of his insanity and of his phthisis, upon the evacuations and drainage of the right pleural cavity. Numbers of similar cases have come in the experience of almost every physician. Some of the cases even more mournful in their results.

My only excuse for calling attention to this disease is to enforce the teachings of modern mycological pathology in an instance which presents many peculiar difficulties and modifying elements.

There can certainly be no progressive suppuration without the presence of pyogenic bacteria. Every other form of inflammation (non-suppurative) in the pleural cavity is due to the infection of that cavity with non-pyogenic but *pathogenic bacteria* or other *microorganisms*. It follows from the anatomy of the pleura that except in penetrating wounds, its infection must always be secondary, and pleuritis and empyema must be looked upon as secondary and complicating diseases.

Pentzold observes that empyema is a frequent sequence of fibrinous pneumonia, and he looks upon it as a secondary infection of the pleuræ with pus microbes. The manner of this secondary infection I shall try to explain.

The normal physiological resistance of the peritoneum to infection is known from clinical experience and experiment to be very great. (Rinne.) This, as I have repeatedly asserted, is due to the evolution of a tolerance to infection from the great proximity of infective material in the intestinal canal. The same tolerance to infection has not been evolved in the pleural surfaces, for they are farther removed from sources of contamination.

The pleuræ are most likely to be infected from the invasion of microorganisms from *infected air cells* or *bronchioles*. These small air spaces are almost as impervious to germs as the wad of cotton with which we stop our test-tubes.

Vinay describes a case of pneumo-thorax which originated in the rupture of the respiratory tract into a pleura upon the patient's rising from his bed. It healed without any inflammation or effusion and the temporary loss of function was removed in about two months. This case shows how perfectly the healthy lung filters the air

which passes through it. Similar results in pneumo-thorax are noticed when they result from stabs and gunshot wounds of the lung. So the pleuræ are much less liable than the peritoneum to infection, and, therefore, natural selection has not guaranteed the same germicidal power in the pleural surfaces which we find in the peritoneum. For the same reason the pericardium being still farther removed from the possibility of infection, it is, therefore, still less tolerant when infected.

One of the causes which determines the localization of infection anywhere is an antecedent infection and coincident saturation of the germicidal power of the part and of the blood nourishing it.

Too little attention has been paid to the destructive power of the blood upon microorganisms. Allow me to recount in the briefest manner the experiments of Buchner and Netter, as well as those of Prudden. These investigators found that blood drawn from the living animal was able in two hours to destroy as many as 4,950 anthrax bacilli out of 5000 mixed with each cubic centimeter of blood. It seems still stranger that the germicidal action was manifested in almost as great a degree in the defibrinated blood and in the serum alone. This germicidal action rapidly disappeared until after five hours the remaining germs began to multiply and the blood or blood serum then furnished the best possible culture material.

One of the causes, then, which undermines the localization of infection is an antecedent infection and a coincident saturation of, or exhaustion of this germicidal power of the blood. In the infection of the pleura with pus microbes, this is a prime essential. Suppurative disease rarely takes place in the pleura without a previous general septicæmia with some such parasite as the pneumo-coccus, the malarial plasmodium, the parasite of influenza, or one of the other infectious diseases. This coincident septicæmia and consequent saturation of the germicidal power of the blood, account for a *diminished physiological resistance*, always small in the pleura (as we have already seen). It is *still* necessary to account for the presence of the pyogenic bacteria. Because this subject has not been adequately studied experimentally, it is possible only to conjecture the source of infection from analogous cases. In many cases of pleuritis, there is an extensive or limited pneumonia. In this pneumonic area, as time goes on, the bronchioles become infected to a greater or less depth, with the pyogenic bacteria which are always present in the air we breathe, and therefore in the larger bronchi. The œdema surrounding the bronchioles in the pneumonic area block the normal course of the lymphatics toward the hylus of the lung, and the current from active congestion turns in the direction of the periphery of the lung and the pleural cavity. For

a time the effused fluid is germ-free and is absorbed by the still healthy pleura over the unaffected portion of the lung and the parietes. In a series of experiments upon rabbits, undertaken by Fleiner, it is shown that fluids (blood and fluids holding coloring matter in suspension) injected into the pleural cavities are readily absorbed, and that the corpuscular elements or color granules are easily recognized in the mediastinal lymph glands. It seems that normal respiratory movements are necessary for this transfer of matter. This absorption, however, reaches a limit when the effused serum carries with it also so large a quantity of infectious germs that corresponding pathological changes take place in the absorbing pleura. Its epithelium becomes swollen, and multiplies imperfectly. Its normal physiological action is suspended; the whole pleural surface becomes the seat of suppuration. *A true empyema supervenes.* It is not to be supposed that under conditions of health the pleura is unable to resist a moderate amount of pyogenic infection for a moderately long time. When the lung and the whole circulation is suffering from malarial, pneumo-coccus, or other forms of infection, the first serum effused contains one of these pathogenic germs. This, many bacteriological experiments have demonstrated. The antecedent infection is responsible for the low vitality of the pleural surfaces and for the want of germicidal power in the effused serum itself.

From the investigations of Kracht it would appear that microorganisms are absent in simple serous effusions. Those found in purulent or fibrino purulent pleuritis are not specific for the empyema, but point to a whole series of concomitant inflammations. Empyema only appears when the pleura is so injured or its cavity contains such a fluid that a suitable soil is present for the multiplication of pus cocci. Kracht experimented upon rabbits with a view of demonstrating the origin of empyema. He injected pus bacteria into the pleural cavity, and saw no injury result, but, when mixed with a large quantity of water or ptomaines pleuritis resulted.

In the same manner, tubercular effusions in the pleural cavities become infected from suppurative bronchitis with the pus microbes and a true empyema follows a tubercular effusion.

In these cases some of the most mournful errors have been made in the diagnosis. The physical signs and even the examination of the sputa have confirmed the diagnosis of tuberculosis. The patient has been pursuing a quiet and fairly satisfactory existence when, suddenly, chills, pain, fever and hectic appears. The examination of the chest does not discover more than increased consolidation but as time passes on, a considerable amount of pus may be discharged by the mouth, as a post-mortem examination may disclose a circumscribed empyema.

There are instances in which coagulation takes place in the effused serum, and larger or smaller clots resembling white thrombi fill the space between the pleuræ. If the effusion takes place very rapidly, it may contain red blood corpuscles, and these again may be found in the clots. The cavity may be so filled with these fibrinous masses as to resemble a sponge. After the absorption of the serum, the solid portions of the effusion may be left behind and give rise to anomalous physical signs. When such a pleuritis becomes suppurative it is difficult to drain and it is wholly insusceptible to treatment by aspiration.

The indications for operating in cases of empyema depend *very largely* on the character of the infection. It may be stated in general terms that the serous pleuritic effusion is from the nature of the origin of effusions charged with the primary infective material; thus, in specific pneumonia, with the pneumo-coccus; in malaria, measles and influenza, with the organism which gives rise to the pneumonias of these diseases. These infective materials are incapable of producing suppuration under any circumstances, and their infective powers are limited in destructiveness and in time. Such serous effusions are ultimately completely absorbed without any loss of function in the parts concerned.

Suppurative empyema is due, as a rule, to the pyogenic staphylococci or streptococcus. A great number of investigators have found these alone or mixed with the infective parasite of the primary disease. It matters little which one of the pyogenic bacteria is the originator of the suppuration. It is in any case essentially progressive and destructive; there is only the remotest hope of the absorption of the pus. Two methods of termination have been observed. The pus has either been discharged through the thoracic walls or into the respiratory passages.

Beside the non-destructive pleuritic infection and suppurative pleuritis or true pyothorax, there remains one other important pathological and clinical manifestation of pleuritis, that is tubercular pleuritis.

Tubercular empyema may follow the perforation into the pleural cavity of a tubercular pleuritic abscess going out from a tubercular osteitis in one of the ribs or vertebrae, or from a tubercular mediastinal lymph gland, and pyogenic empyema may arise from true pus cavities in the same localities.

Many authors have held that the presence of pleuritis without traumatism, is *primæ facie* evidence of tuberculosis, but this Dr. A. A. Smith¹ has shown from careful clinical observation followed in many cases by post-mortem examination, is not supported by the carefully considered facts. Pyæmic pleuritis occurs in the course of osteo-myelitis, carbuncle and other suppurative

¹ Medical News, July 9, 1890.

diseases, and usually has the staphylococcus pyogenes aureus in the exudate. The streptococcus pyogenes is usually found in those cases which occur in puerperal sepsis or wound diseases. In tubercular pleuritis the tubercle bacillus is found only with difficulty. Tubercular pleuritis originates from infection of the pleura from neighboring tubercular organs, and principally from tubercular foci in the lungs. While it has been observed without other antecedent forms of pneumonia it is prone to follow non-tubercular and non-suppurative disease.

True or pyogenic empyema may arise from the puncture of the pleural cavity with an infected instrument. It was occasionally declared before the antiseptic period, and even well into it, that thoracentesis was followed, as a rule, by suppuration. This is denied by the methods and practice of modern operators. It does, however, occasionally occur. Gunshot wounds and stabs with sharp instruments without perforation of the lung and without pneumo-thorax is occasionally, if not as a rule, followed by suppurative pleuritis. That the perforation of the lung and consequent pneumo-thorax is not invariably followed by infection of the cavity is due to the germ-free condition of the air which has traversed for some distance through the moist bronchioles.

It must be remembered that in cases of pyæmia, pyothorax may arise and is to be accounted for in the same manner as in other forms of sepsis.

Marfau reduces the forms of empyema etiologically into three categories: 1. Those that follow pneumonia and are characterized by the presence of the pneumococcus in the exudate; 2. Those that occur in the course of pyæmia and contain the staphylococcus or the streptococcus; 3. Those that follow tuberculosis and contain the tubercle bacillus. The indications for operation, depending on the quantity of effusion, differ in respect to urgency the same in all kinds of empyema. Thus the effusion may be so great that it diminishes the lung capacity beyond the limit of existence. Life may thus be threatened in a one-sided effusion of such extent that it encroaches upon the cavity of the other lung, or when the opposite lung is already useless from pneumonia or other causes. In such cases the effusion must be immediately removed on account of its mechanical danger to life. The same may be said of such cases as are complicated by great interference with the circulation of the blood. Effusions, of even small extent, in both pleural cavities become dangerous, especially when complicated with pneumonia or bronchitis.

I will attempt here to demonstrate the action of a considerable effusion in one of the pleural cavities of a dog. In order that the circulatory complications may be at a minimum, I will use the right cavity. This I will fill by inserting this canula between the fourth and fifth rib and mid-

way between the sternum and spine. A considerable quantity of warm water flows into the cavity with great rapidity, and by raising the percolator a still larger quantity flows into the thorax, compressing the lung and pressing the mediastinum over the left side, diminishing the capacity of the left lung. This is manifest in the rapid breathing and the rapid and irregular pulse.

Such an interference with the function of the lung calls for immediate evacuation of the fluid without regard to the nature of the fluid or the character of the coincident inflammation.

There is another less urgent, but not less positive, indication for operation in those cases of effusion which are infected with pyogenic bacteria. It matters not what the original effusion may have been, or what the condition of the patient may be in other respects, the presence of a suppurative disease in the pleural cavity, or in both of them, is a positive indication for immediate and *permanent* removal. The suppurative disease is progressive and destructive, and never terminates favorably except in drainage and cicatrization of the suppurating surfaces, and closure of the cavity. The temporary or interrupted drainage of the pleura is not adequate in such cases, and cannot meet the positive indication.

The treatment of tubercular effusions into the pleural cavity may be stated in almost as positive terms. It is assumed that the tubercular infection is unmixed with suppurative disease. The *locus* of tubercular disease is assumed to be in the lung and beyond the power of the operator to remove. The effusion is not usually large, and is apt to be circumscribed by adhesions. The wall of the cavity is covered by tubercular granulation tissue and is sometimes found little more than a tortuous tubercular channel. Drainage by free incision is followed sooner or later (and in spite of the most careful antiseptic treatment), by pyogenic infection of the tubercular tract, and, when the opening begins to close, by symptoms of sepsis. Neither simple incision and antiseptic irrigation nor the excision of a portion of a rib and *evident* of the cavity is followed by a speedy recovery. The tubercular disease in the other part of the thorax is apt to speedily carry off the patient. It may be said that there is no positive contra-indication to operation on tubercular empyemas, and that they may be operated on when there is any special indication. This special indication may be found in the size of the cavity, in the accessibility of the original focus, or in the otherwise healthy condition of the patient. That the drainage of tubercular pleuras should not be undertaken with any favorable prognosis, except in the young, and when these follow tubercular disease in an accessible bone or other part and is not accompanied by an extensive disease in other parts of the thorax, passes without saying.

In removing pleuritic effusions a great obstacle is met in the contractility of the lung and its tendency to immediately collapse and retract to the upper and posterior part of the thorax under the pressure of the atmosphere. This is a difficulty nowhere else met with, and one which has long been looked upon as sufficient to interdict the opening of the pleural cavity under any circumstance. This is termed the elasticity of the lung, and it has been estimated by Hutchinson to be equal to one-half pound to the square inch. The pleural cavity may be opened into a partial vacuum and the collapse thus avoided, or the function of a single lung may be dispensed with. Thus we have two principal methods of draining the pleuræ—the one into a vacuum, and the other against a full atmospheric pressure.

I shall attempt to show you with the animal before us just how great is the contractile power of the lung of the living dog. Taking the percolator down and placing it some inches below the canula, the fluid flows rapidly from the thorax into the percolator as is indicated by the height of the water in that vessel and by the greater ease in respiration which the dog manifests. Fourteen inches is $\frac{1}{4}$ of 348 inches or $\frac{1}{24}$ of an atmosphere, which corresponds very well with the estimation of Hutchinson for the human lung.

Of all the methods of removing a pleuritic liquid effusion, that originally proposed by Staniski is the simplest and attended with the fewest dangers. This is the aspiration with a small trocar which has come so much in vogue since the perfection of the apparatus. For effusions which are infected with microorganisms of a non-destructive character, and for those effusions which are removed solely on account of their extent, it is the most serviceable and desirable method. It is not to be used in cases of pyogenic infection with the hope of effecting an arrest of the destructive disease. However, when so modified as to be used continuously it may be of the greatest advantage to those adults who can have the necessary attention from skilled nurses or physicians, and when it is instituted early enough to preserve the elasticity of the lung. When advantage is taken of the weight of a column of antiseptic solution for the aspirator this becomes the recently much lauded method of Buelau. Whether it can be depended upon for the complete removal of the products of suppurative pleuritis, experience has not yet adequately demonstrated. It seems to promise the most favorable results when instituted early and so vigorously as to remove nearly all the effusion, and, at the same time, bring the granulating pulmonary and parietal pleural surfaces together and secure a rapid obliteration of the cavity. It would accomplish enough if it would do this and limit the effusion to a small cavity, which could be afterwards drained by incision. It is the only method

which can be used in bilateral pleuritis of great extent. It commends itself to the patient as a less formidable operation than incision or rib-resection, and would, therefore, be likely to be undertaken early. With a proper apparatus to be made from any exploring aspirator and a long rubber tube, it is within the reach of every physician, and the difficulties and dangers of thoracotomy with constant aspiration are not great. The feeding of the siphon with an antiseptic solution on the principle of a Sprengel pump, as here proposed, may be found to be a safeguard in filling the tube which might become clogged or full of gases.

The following method is employed by Fürbinger in such cases of pleuritic exudations as are of long standing, and with little pressure. He takes advantage of the sucking power of the mouth to remove the fluid. A glass tube entering the bottom of an irrigator bottle is connected with the trocar by means of a rubber tube. Another tube from the top of the bottle is used as an exhausting tube.

I will try to evacuate the air which has purposely been allowed to enter this dog's pleura. The percolator is hung up three or four feet above the dog's body. An aspirator needle having a calibre of about a millimetre is now put on the end of the delivery tube. This needle is thrust into the rubber tube which connects the canula in the thorax with the basin below, and it is pointed downwards. As soon as the fluid is allowed to flow from the percolator it fills the waste tube, and the weight of this column of water aspirates the air from the thorax and may be seen escaping in bubbles from the end of the tube. Percussion over the lung now demonstrates the absence of air in the thorax and the presence of the expanded lung. The only remaining method of treatment consists in free incision and drainage. This is accomplished in a number of ways.

An incision is made in the axillary line and at the upper border of a rib into the centre of the effusion. The finger is passed into the incision and any information gained which the palpation affords. A rubber or other drainage tube is passed on the finger or forceps into the cavity and placed in the most advantageous position for drainage. The cavity may or may not now be washed out with a warm antiseptic solution and carefully dressed. This antiseptic irrigation and dressing are to be repeated every day with the most conscientious care and scrupulous antiseptic precautions. At the end of a week or two the discharge of pus will be found to have disappeared. Then if the method of Professor Quine and Bouvert is to be followed a still more careful antiseptic irrigation is to be employed, and the tube removed entirely, and the hole in the side stopped with a stick of iodoform. The dressing is left on for

two weeks or more, and the air and other contents of the cavity left to be absorbed by the now clean and healthy pleura. There is no reason why this should not fill all the indications of any operation, viz.: First, to evacuate the pus. Second, to prevent the production of more purulent matter, and third, to restore the respiratory apparatus to its normal condition. I must admit that while there is no reason to think that the pleural cavity may not thus be sterilized, our experience has been so unfortunate that until Professor Quine reported his cases it had not been regularly practiced.

At the German Congress for Internal Medicine referred to, Mosler alone advocated simple incision and drainage. The treatment most favorably received there was Buelau's method and the subperiosteal excision of a rib and drainage without antiseptic irrigation.

As to the site of operation, it must be admitted that a great many mistakes have been made both by writers and operators, and Godlee alone has put the matter exactly. The retraction of the diaphragm is more rapid than the retraction of the lung, and the opening into the thorax should be at least as high as the centre of the effusion in all cases in which drainage is made against the atmosphere. In case drainage is made into a vacuum after the manner of Buelau, the locality of the fissure between the lobes of the lung presents some obvious advantages. Dr. Marshall's muscle-free spot is certainly too far forward. The drainage can be better accomplished in the axillary line notwithstanding the amount of muscle and fascia.

The second method of drainage against the full atmospheric pressure is incision, counter-incision and through and through drainage. This method certainly secures better drainage and gives an opportunity for irrigation without danger of distending the cavity and interfering with the retraction of the lung. It hardly offers the best means of restoring the respiratory organs to their normal condition. It is the method which would be least likely to be received by the patient, and it has few advocates except in England.

The subperiosteal excision of a large portion of a rib and the drainage of the cavity by one or more tubes through the defect thus established. This is the method to be used in all cases which cannot have the care of a skilled nurse and the care of a careful and scrupulous physician. The drainage is established in the most comprehensive manner and is accompanied by the fewest dangers. It is the method best adapted to those cases that must take care of themselves.

Through and through drainage and insufflation of dry air. This method offers the same advantages as perrigation, with the advantage of scab formation and destruction of the infection by desiccation.

The perfusion of air has also (1866) been practiced by Roser, and later, combined with antiseptic liquid irrigation, by Quincke, and by Ewart and Fitzroy.

When pyogenic and non-tubercular empyemas are treated by any one of the preceding methods early in their formation, there is the greatest hope of a restoration of the functions of the respiratory apparatus to its integrity. When treatment is inadequate to meet the indications, or when it is delayed, such serious changes take place in the thorax that new indications arise. Thus spontaneous discharge of the pus may take place through the bronchi, and the cavity formerly filled with pus will come to be occupied with pus and air. If the cavity is small, or favorably situated, it may drain sufficiently into the bronchus to close, and recovery will be nearly perfect. Again, if drainage is not instituted early in the course of the disease, the lung will be pressed back and up and adhesions will be formed between the walls of the thorax, and the collapsed and shrunken lung, which will prevent its ever being able to fill the pleural cavity again. This compression, with coincident infection, may result in gangrene of the lung and in the invasion of the empyemic fluid and the dead tissues by saprophytic bacteria and other organisms, and the production of a complicating sepsis of a grave nature. This invasion takes place from the bronchial tubes, which are always filled with saprophytic bacteria and other putrefactive organisms.

When such adhesions or such destruction has taken place before the case comes to treatment, or when the methods instituted have been inadequate to close the cavity entirely, it may be necessary to depress the thoracic wall so that it will come in contact with the surface of the collapsed lung. This is done by the excision of a sufficient number and extent of ribs to meet the indication. (Estlander.)

This review of the etiology of pyothorax makes it possible to formulate the following positive indications for operation:

1. Serous effusions must be removed whenever they interfere with respiration or circulation by their extent, or when they show a tendency to remain after recovery from the primary disease which gave rise to their presence. The aspirator may be found sufficient in these cases, but when inadequate after repeated trials, one of the more radical and permanent methods of drainage must be resorted to.

2. Pyogenic and tubercular effusions of large size or of small size must be immediately and permanently drained.

3. Drainage into a vacuum must be practiced in all cases of bilateral effusion without adhesive limitation, and in those cases of unilateral effusion in which the opposite lung is so incapacitated as to be inadequate for respiration. It may be

practiced in all cases in which the expansibility of the lung is intact and the patient can have skilled attention. It will be found of the greatest value in limiting the extent of the empyemic cavity, which may be afterward drained against the atmosphere.

4. Intercostal incision and antiseptic irrigation of the cavity to a point reaching a practically aseptic condition of the same, and permanent closure of the incision, is indicated when the expansibility of the lung is intact and the skill of the operator is sufficient.

5. Rib resection and thorough drainage should be practiced in all cases of tubercular effusion, and pyogenic effusions which are not treated early, or those occurring in patients who cannot have the best of care.

6. Operation must never be delayed on account of the extreme condition of the patient, nor on account of the presence of tuberculosis in one or both lungs, nor on account of the presence of pneumonia on the same side. All of these conditions are additional indications for radical operation.

PROPOSED MEDICAL LEGISLATION.

BY HENRY A. RILEY, ESQ.,
OF NEW YORK.

The Legislatures of many of the States are now in session, and in most of them measures have been proposed, of more or less importance, affecting medical practice or public health. It is difficult to present a full statement of all these bills, but the substance of many of them has been published in the daily papers and will be of interest.

In New York the principal bills are the following: One removing the pauper insane from the county poorhouses and transferring them to the State Asylums. This involves the expenditure of about \$500,000 for a new building to accommodate the new patients, and has been actively opposed by local officials who have found some pecuniary or other advantage in keeping the insane in the poorhouses, which are badly adapted for the care of such patients. The general sentiment of the profession and of humane persons is strongly in favor of the bill, and it has within the last few days received the Governor's signature and become a law. Another measure of great, though local, importance requires the appointment of matrons at the police stations in New York City, to care for women who may be arrested or apply for shelter. This bill, appealing as it does to the sentiments of humanity and decency, has also just become a law. Another measure of general importance provides for a Park in the Adirondacks for the purpose of preserving the forests from destruction, and conserving the water supply at the sources of the Hud-

son. The plans proposed involve the expenditure of not far from \$3,000,000, and while the Legislature will not appropriate so large a sum, it is probable that a beginning will be made, and the State committed to the sound policy of preserving its forest area.

In Connecticut a bill has been prepared to regulate the practice of medicine, and this provides for education at reputable institutions and the possession of diplomas by all practitioners residing in the State. Examinations by medical boards will also be required.

In Pennsylvania there are two measures providing for the regulation of medical practice—one emanating from the Allopathic school and one from the Homœopathic. The first provides for a Board of Examiners consisting of nine members, who shall have been in active practice for not less than ten years. The term of office is for three years. Not more than one shall be appointed from the same county, and none shall be a member of the faculty or staff of any medical school or college. The applicants shall be examined in anatomy, physiology, chemistry, toxicology, pathology, hygiene, materia medica and therapeutics, principles of medicine, surgery and obstetrics. Any candidate for examination may choose the system of materia medica and therapeutics in which he or she shall be examined, and no one shall be rejected on account of adherence to any school of practice. The bill proposed by the Homœopathic Medical Society is similar in some points, but quite different in others. The Board of Examiners is to consist of nine members, who must have been in practice for five years, and the term of office is six years. The Board shall have power to fix the grade of preliminary education required of all students entering a medical college, and shall also establish the minimum curriculum in medical schools, and the length of the course of studies requisite to graduation. The course of instruction shall not be less than four years. The Board shall inquire into the fitness to practice of graduates of any college having a lower standard than that required by the Board of State institutions. The main point of difference in the two bills is that the one proposed by the Allopathic school vests the appointment of the members of the Board in the Governor without prescribing the school to which they shall belong, and one of the State medical journals says that the different schools ought to be represented according to their relative numbers in the State. The bill of the Homœopathic school requires the Governor to appoint equally from lists presented to him by the Allopathic, Homœopathic and Eclectic Societies of the State.

In Michigan no special legislation regarding medical practice is reported, but it is said that the Governor advises the abolition of the State Board of Health and that the Legislature may adopt the

suggestion. This would certainly be a retrograde step, and would no doubt be a cause for subsequent regret.

In Maine the State Health Board has introduced a bill providing for the registration of vital statistics. It is rather strange that so important a matter as this should not have been already under legal sanction. The official record of births, marriages and deaths, arranged in such a manner as to be thoroughly reliable and readily accessible, is held by most civilized communities to be a prime necessity, and no doubt the lack of such a record has caused already great inconvenience in Maine.

In Missouri there is a bill requiring all medical colleges in the State to adopt three courses of lectures as a condition for graduation. Most of the colleges are said to favor the measure, and certainly the requirement is small enough if other States are considering the matter of requiring four years of study, before granting a diploma. Another measure pending in the Missouri Legislature touches on the regulation of prostitution. The provisions are modeled after the German laws on the subject.

In Illinois the State Board of Health, by virtue of legislation already enacted, has decided that it will not recognize a foreign diploma which does not confer upon its holder the right to practice medicine in the country in which it was granted. The holder of an Austrian, a German, Russian or Swiss diploma wishing to practice in Illinois, must hereafter pass an examination before the Board, unless he have a pass certificate from a Government examining commission. The holder of a Canadian diploma, unless a licentiate of the College of Physicians and Surgeons of Ontario and Quebec, must pass an examination in order to be licensed in Illinois.

In Oregon a bill has been introduced regulating medical practice, and part of it touches on medical ethics, and provides for the revocation of licenses in case of unprofessional conduct. The acts which will cause a revocation are as follows: *First*, the procuring, or aiding and abetting in procuring a criminal abortion. *Second*, The employing of what are known as cappers or steerers. *Third*, the obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured. *Fourth*, the wilful betraying of a professional secret. *Fifth*, all advertising of medical business in which untruthful and improbable statements are made. *Sixth*, all advertising of any medicine or of any means whereby the monthly periods of women can be regulated, or the menses reestablished if suppressed. *Seventh*, conviction of any offense involving moral turpitude. *Eighth*, habitual intemperance.

In California there is a proposed measure for regulating the practice of medicine. It establishes a State Board of Medical Examiners, con-

sisting of seven members, who are to be appointed by the Governor. One member is to be appointed from each of the well-established medical schools, and the others are at large.

Probably a number of other States are contemplating legislation somewhat along the lines of the bills mentioned above, but no statement of such legislation has been noticed in the public journals.

A statement will be made in these columns, after the adjournment of the Legislatures, of the measures which actually became laws.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

TREATMENT OF ICTERUS WITH TURPENTINE.—CARREAU (*La Semaine Médicale*, March 11, 1891) recommends the use of large doses of ozonized turpentine in the treatment of grave forms of jaundice. It is administered in the form of capsules, as many as sixty being given in the first thirty-six hours. In case of obstinate vomiting in which the stomach rejects the capsules, the drug may be administered hypodermically, the following mixture being employed: Essence of ozonized turpentine (*Codex Française*) 10 grams, liquid vaseline 50 grams. In one case of grave icterus, attended with fever, the writer employed twenty-three injections in thirty-six hours. The symptoms rapidly improved, and at the end of a few days the patient was convalescent.

TREATMENT OF ERYSIPELAS WITH GLYCEROLE OF SALICYLATE OF SODIUM.—DR. S. C. INGLESSIS (*La Semaine Médicale*, March 4, 1891) has employed a solution of salicylate of sodium, in glycerine, in the treatment of erysipelas. The solution should have a strength of from 4 to 6 per centum and be used each four or six hours, the affected part being protected with a layer of cotton. At the same time, in the absence of heart weakness, or albuminuria, salicylate of sodium is given internally, about two grams in each twenty-four hours.

The writer has treated thirty-six cases by this method, and notes favorable results. The application immediately lessens the pain and discharge, and shortens the disease.

Medicine.

ADDITIONAL OBSERVATIONS UPON CANTHARIDIN.—At the meeting of the Berlin Medical Society, held March 4 (*La Semaine Médicale*), SAALFELD presented a patient suffering from lupus who had been treated by injections of the alkaline solution of cantharidin. The ulcerating lupus had become flat, pale, and was apparently disappearing. The Landgraf had injected the

solution in a series of cases affected with acute laryngeal troubles, but had not noted any results. In nine patients with chronic trouble he had come to the following conclusions: That the remedy caused an œdema of the mucous membrane, expectoration was facilitated, the redness of the vocal cords diminished. He absolutely ignored the question of the remedy producing a cure. Lublinski had observed after the injections pain and strangury, but neither albuminuria nor hæmaturia. Expectoration was facilitated and ulcerations contracted and healed. A patient affected with laryngeal and pulmonary phthisis, and presenting a lupus on the back of the hand, was markedly relieved by the injections. Fränkel had not observed a case of perfect recovery from the injections. Since his last communication he had seen several cases of albuminuria, so that he now examined the urine after each injection.

Surgery.

SURGICAL TREATMENT OF PULMONARY CAVITIES.—The bold endeavor to radically attack phthisical cavities and drain them, although introduced some years ago, has been lately receiving fresh advocacy, especially in relation to the treatment of phthisis by Koch's "tuberculin." Many of the dangers of this remedy in advanced cases of phthisis rest upon the retention of necrotic material within the lung, and the liability to its being inhaled into previously unaffected areas. Dr. Sonnenberg recently operated upon four cases undergoing this treatment, and Dr. E. Leser of Halle reports two more. One of these was a female aged 43, who had had symptoms for four years, and presented physical signs of excavation at the left apex. The operation consisted in making an incision in the first intercostal space, 7 centimetres long, and, after dividing the muscles and securing blood-vessels, introducing a trocar in the direction of the cavity. Although no fluid could be obtained, it was evident that the point of the trocar was in the cavity, and the pleuræ being firmly adherent, an aperture was bored through the layer of tissue overlying the cavity by means of a Paquelin's cautery, the trocar being taken as a guide. The cavity was the size of an apple, had somewhat irregular walls, and was coated with flakes of inspissated pus and caseous matter; these were removed, and the cavity stuffed with antiseptic gauze. Subsequently the patient was injected with Koch's "tuberculin," which always caused increased discharge from the cavity; and later still some of the fluid was directly introduced into the cavity itself. At the last report the patient had improved much in general health, and the cavity had dwindled to one-half its former size. The second case, a man aged 42, was similar, except that in him the cavity was no larger than a chestnut, and was situated at the right apex. Here, too, the use of tu-

berculin produced increased discharge, and on one occasion its injection into the cavity was followed by severe vomiting, dyspnœa, and other alarming symptoms. Dr. Leser, however, thinks this mode of treatment has a future before it. At present he would make it a *sine quâ non* that the costal and pulmonary pleuræ should be firmly united, as they usually are when cavities are of some standing, and he enters fully into the technique of the operation, laying stress upon having a fairly large incision through the thoracic wall, but not a very large aperture made in the lung, since this will be sure to increase by sloughing. The notable feature of these cases seems to be the immediate relief to cough and expectoration given by the external opening, although, when the injections are resorted to, the secretion becomes so much more abundant.—*The Lancet*.

EXPERIMENTS TO DETERMINE THE CENTRE OF RESPIRATION.—DR. LABORDE communicates to the Comptes Rendus de la Société de Biologie the results of experiments made by him to ascertain the nerve centre for respiration, promising a larger work at some future time. He found that superficial mechanical injury to the region of the *alæ cineræ* does not accelerate respiration; a deep puncture decreases, or even temporarily arrests, respiration; if the injury penetrates at least to the middle of the substance, respiration may cease altogether. This result is always obtained if a certain circumscribed portion of the substance is cauterized with the hot iron. This portion need in the rabbit be only half a millimetre in diameter, in the dog from one to two millimetres. The iron must, however, enter immediately above the apex calami, and must penetrate at least half the substance from the raphe. If the injury is unilateral, respiration may continue for some little time on the opposite side. Total separation of the medulla below the apex calami always arrests respiration of the trunk, while that of the head continues for some time. Spinal reflexes continue, and even increase; irregular superficial contractions of the respiratory muscles, leading to no results, may be observed. The increase of the reflex action is especially remarkable in newborn animals. No parts of the brain above the medulla oblongata, including the cortex, the corpora quadrigemina, and thalamus optici, have any specific influence whatever on the respiratory muscles.—*The Lancet*.

Bacteriology.

ETIOLOGY OF GROUSE DISEASE.—PROFESSOR E. KLEIN (*Cent. f. Bak. Parasitenk.*) finds that the bacillus of the grouse disease as it occurs in autumn is not nearly so virulent as that obtained from the disease during the spring months, the bacilli being obtained from the heart blood in the autumn and from the lungs in the spring.

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KOCH'S TUBERCULIN IN PULMONARY
TUBERCULOSIS.

As we continue to receive letters from physicians in different parts of the country anxiously inquiring how and where they can obtain Koch's Lymph or *Tuberculin* with which to treat some of their consumptive patients, we think it proper to call the attention of all general practitioners to the present status of the Koch treatment, particularly in relation to pulmonary tuberculosis. And we would remind all inquirers that we know of no mode of obtaining a supply of the *Tuberculin*, except by application to Koch's laboratory in Berlin, Prussia. There is none in the drug market of this or any other country, and no one outside of Koch's laboratory knows how it is made, or precisely what its active ingredients are. The authorities at Berlin simply authorized the remedy to be furnished in limited quantities to be used in hospitals where the patients could be kept under constant observation, and reliable record made of the results. Under this regulation it has been obtained and used with the utmost care in many of the hospitals in the different countries of Europe, and in the chief cities of this country during the last three or four months. The results have been faithfully reported from week to week in the leading medical journals of this and other countries.

It has been used chiefly in cases of lupus and tuberculous affections of the external lymphatic glands, bones and joints, and in a large number of cases of pulmonary tuberculosis. It has also been used in a limited number of cases of cancer

and lepra, but generally with negative results. A careful review of all these reports seems to justify the following summary of results at this stage of the investigation:

First, The remedy when used in the manner and in the doses advised by Dr. Koch, has in most instances affected the human system in the manner claimed by him; although the febrile reactions have varied very much in different cases and sometimes at different times in the same patient, both in regard to intensity and duration. The effect of the remedy on tubercular tissue has also been abundantly demonstrated, especially in lupus and such tubercular cases as admitted of free external drainage; while the numerous post-mortem examinations by VIRCHOW and others show, not only the same necrotic effect upon the tubercular tissue of the lungs and other internal tissues, but also the rapid diffusion of the bacilli in the blood and tissues previously unaffected.

Second, In perhaps two-thirds of the cases of lupus and such tuberculous joints and glands as have free external openings, the injections of *Tuberculin* have been followed by marked improvement and in from three to six weeks some of them have appeared nearly well, while in many cases tolerance to the remedy was soon acquired and improvement ceased. In the remaining third of this class of cases no improvement was obtained and some of them were made worse. One girl, 17 years of age, with lupus of the face, received a single injection of two milligrams, which was followed by violent febrile reaction and death in about thirty-six hours.

In some of the early cases that were reported as either or quite well, the disease has since returned with as much activity as before, thus showing that even in the most favorable cases the curative effects of the remedy may prove only temporary.

Third, The number of cases of pulmonary tuberculosis that have now been treated with *Tuberculin* aggregates many hundreds. A large majority of them have been described as in the early stage of the disease, *i. e.*, before the softening or disintegration of tubercular masses, or the formation of cavities in the lungs. A much smaller number presented the physical signs of some suppurative or small cavities; while a still smaller number were plainly in the advanced

stage of the disease. In the two groups of cases last mentioned, the *Tuberculin* treatment has pretty uniformly accelerated the progress towards a fatal result.

In the first group named, supposed to contain only cases in the early stage of pulmonary tubercular disease, the first effect of the *Tuberculin* injections has pretty uniformly been more or less temporary febrile reaction followed by increased cough with marked increase of expectoration containing a greater number of bacilli. In a considerable number of these cases a continuance of the treatment was attended by diminished febrile reactions and decidedly less expectoration with moderate general improvement until apparent immunity or tolerance to the further action of the remedy was acquired by the patient. But in no case did the physical signs of the tubercular disease in the lungs disappear, and after an intermission of ten days or more in the treatment, some of the patients were again found susceptible to the action of the remedy. Consequently we have not yet found a single case of pulmonary tuberculosis in which the remedy could be regarded as having effected a complete cure. In a large proportion of the cases treated in the early stage of the disease, instead of even temporary improvement, the progress of the disease has been accelerated, accompanied, in some, by hæmorrhage, in others by rapid formation of cavities, and in a few by the appearance of albumen in the urine.

Fourth, The foregoing results sufficiently demonstrate that the *Tuberculin* manufactured in Berlin is an exceedingly active poison, possessing a special affinity for tissues affected with tuberculosis, and capable of causing necrosis or rapid disintegration of such tissue in every part of the living body, and consequently its use as an internal remedy will always involve more or less danger to the welfare of the patient.

If the foregoing summary of results thus far obtained is correct, it is obvious that the use of the *Tuberculin* should be restricted to such cases of tubercular disease as are on the surface or have free communication therewith; and the general practitioner should abandon all idea of using it in cases of tuberculosis of the lungs or any of the internal viscera.

ON THE SIGN CALLED "TRACHEAL TUGGING," IN THORACIC ANEURISM.

DR. R. L. MACDONNELL, of the Montreal General Hospital, relates in *The Lancet*, March 7, the clinical aspects of seventeen cases of thoracic disease where "tracheal tugging" was recorded. This sign was first brought forward in 1878, by SURGEON-MAJOR W. S. OLIVER, in *The Lancet*, and his account of it has since been republished in only two text-books, so far as is at present known. In the original publication, the writer suggested the following procedure in the diagnosis of thoracic aneurism: "As the diagnosis of thoracic aneurism of the aorta is often difficult and obscure, notwithstanding the various means we have at our disposal for detecting it, I am desirous of mentioning a method of examination which has afforded me material assistance in diagnosing this disease—or even simple dilatation of the vessel—when it occurs, as is most generally the case, either in the ascending or first part of the transverse portion of the arch; the process is as follows: Place the patient in the erect position, and direct him to close his mouth and elevate his chin to the fullest extent, then grasp the cricoid cartilage between the thumb and finger, and use gentle upward pressure on it, when, if dilatation or aneurism exist, the pulsation of the aorta will be distinctly felt transmitted through the trachea to the hand. The act of examination will increase laryngeal distress should this accompany the disease.

The application of this method of examination has been in vogue in the wards of Montreal Hospital for twelve years, and the sign has come to be known as "tracheal tugging." Its great importance was early recognized by DR. GEORGE ROSS, who in his clinical teaching and published reports of aneurismal cases has been careful to note the presence or absence of tracheal tug. It has always been found to be a reliable sign of aneurism of the transverse arch, and in one case, at least, it was the only positive sign present of an aneurism, whose existence was made manifest subsequently by other signs and symptoms. Where the aneurism is deep-seated and is in contact at all with either the trachea or one of its principal subdivisions there will be a very distinct and unmistakable tugging downward of the cricoid cartilage with each cardiac systole. In some cases the movements of the box of the larynx

have been so well-marked that the pulse could be counted by simply placing the tip of the forefinger upon the pomum Adami, and making a slight pressure upwards. One other condition may possibly be mistaken for that under consideration, but a little care will exclude the chance of error: this is when the heart is acting strongly, or when aortic incompetence is present, and so acting as to convey to the fingers, from the adjacent carotids, a considerable amount of rhythmical pulsation. But this will be noted as something different from the downward tugging of the aneurismal sign. DR. MACDONNELL formulates two propositions from his clinical experience, and that of his colleagues at the Montreal Hospital: 1. Tracheal tugging is never present except in aneurism. 2. When tracheal tugging is present the aneurism is so situated as to press from above downwards on the left bronchus, or on that portion of the trachea that is immediately adjacent to it. Of the twenty-five cases in which this phenomenon was examined for and recorded as present or absent, twenty-three were from the hospital, and two were from private practice. In seventeen cases the sign was found. In eight an autopsy was obtained.

SANITARY UNDERTAKING.

The State Board of Health of Pennsylvania has recently issued its Circular No. 31, containing instructions to sextons and undertakers regarding the handling of the bodies of those who have died by contagious diseases. It bears date of December 1, 1890, and comprises in a dozen pages a very full digest of rules and suggestions as to "when, how and where undertakers can and should be sanitarians." One point of prime importance, the avoidance of public funerals after death by infectious disease, is made especially prominent, and it is urged upon all intelligent undertakers that their influence and counsel should always be exerted against publicity and delay in the disposal of the dead in such cases. The undertaker not only owes it to his personal safety to manage such cases with despatch, but the interests of the commonwealth, in checking the dangers from communicable disease, point in the same direction.

The importance of a free use of potent disinfectants is emphasized, and suggestions are offered

tending to the employment of simple, efficient and non-hazardous means for embalming the contagious dead. The circular advises, however, that no process of cadaveric preservation by arsenical preparations, and the like, shall be used unless it shall be known to the undertaker that a written certificate of the cause of death has been given by the attendant physician; and that embalming should never be attempted in the face of circumstances of a suspicious nature. This advice is valid chiefly from the medico legal standpoint, since death from poison may be covered up by an unduly hasty use of certain embalming methods.

The use of the ice-box is particularly named as an objectionable procedure in the case of contagious deaths. The superficial action of the ice used in the refrigerant process can have little to do towards removing the contagious dangers in these cases, while the process itself is unsafe as regards the undertaker and his assistants, since it involves considerable unnecessary manipulation of the bodies so treated. The circular adds, in this connection, that instances of wanton recklessness have been reported to the Board, in which the ice after use in the box has been thrown in the public street, and the box has been taken the same day into an uninfected house without having been disinfected.

POISONING BY EXALGINE.

A case of poisonous overdosing with exalgine is given in a recent issue of the *British Medical Journal*, by E. E. DYER, M.D. The patient, a man of twenty years, applied for treatment for rheumatism. Exalgine was ordered in doses of grains ijss, in tincture of orange and water, at six hour intervals. DR. DYER was prevented from seeing the man until over forty hours had elapsed, during which time he was told that six doses had been taken. The patient presented the symptoms of carbolic acid poisoning; had been sleeping almost continuously for twelve hours, frequently starting in his sleep, and was very dull and heavy when aroused; complained of pain in the lumbar region. Urine had been passed only twice in twenty-four hours and was of an olive-green color; its specific gravity was high; there was no albumen or blood; deposits of the urates, and not phosphates, were observed. He complained greatly of thirst; the skin was hot and dry, but the highest

temperature obtained was 98° F.; the pulse counted 102, and was full and strong. Salivation was a marked symptom for several days; this was treated by occasional doses of chlorate of potash and subsided soon after the cerebral and renal conditions improved. Otherwise the only treatment mentioned was a diaphoretic and diuretic mixture. The rheumatic and myalgic symptoms appeared to be relieved by the exalgine.

A FORM OF FAITH CURE FOR SNAKE-BITE.

In Southern India, where the natives suffer so much from snake-bite, especially that of the venomous cobra, it is strange that these reptiles are for the most part left in peace, on account of the influences of tradition, superstition and worship of all forms of animal life which forbid their destruction. Even special days are set apart for the adoration of the cobra, when offerings of sugar, milk and other articles of food are made to it. And this is done despite the fact that, in the province of Mysore at least, the Government offers to pay a reward for every snake that is killed and brought in, and thus a superstitious dread of consequences prevents the extermination of these reptiles. The natives believe that their best protection against snake-bites lies in their devotions and offerings, and that if they do not secure immunity against the venom of the reptiles, the fault has been their own, by reason of their inadequate devotions and offerings; which is much the same line of reasoning as that adopted by the unfortunate faith-healers of our own country, who, starting with the proposition that all disease is sin and want of faith, find it easy to charge the latter upon every poor invalid who does not at once declare that he has been healed under the ministrations of the "healers."

EDITORIAL NOTES.

THE BENEFITS OF A SATISFIED STOMACH.—Aside from the well-known aphorism touching the importance of a well-filled stomach upon the joy of the individual, there now comes a confirmation of an opinion which has long been held among physicians, viz., that a full stomach acts as a force against the invasion into the system of the peculiar poisons of many diseases. Experiments have recently been made which go to show

quite conclusively that hunger lessens the ability of the body to defend itself against disease germs. This comes not alone from the fact that the stomach, and sympathizing organs, are actively engaged in that work which they are physiologically destined to perform, but as well from the general effect this may have upon those guiding and governing centres of the central nervous organization, and, also, probably, other factors of which we have but little knowledge.

A NEW INTERPRETATION.—An English quack was recently brought before the police court for practicing without due qualification, who, in defending the use of the characters M.D. and F. R. S. after his name, said they meant "money down" and "Fosterer of Real Science." The individual's genius, however, did not save him for he was fined twenty pounds M.D.

HARPER HOSPITAL, DETROIT.—Staff positions at this institution are hereafter to be had only through the avenue of a competitive examination, and such examination has been thrown open to the graduates of all medical schools. Formerly the positions were accessible but to those holding credentials from the Detroit College of Medicine.

THE WISDOM OF GALEN.—Even upon the subject of lead-poisoning that great medical writer of early ages—Galen—had a clear conception. Thomas Oliver, M.A., M.D., (*Brit. Med. Jour.*) refers to him as condemning the use of leaden pipes, stating that the water which was conveyed through them took on a muddiness from the lead, and produced a kind of dysentery in those who drank it.

FURTHER PRECAUTIONS AGAINST POISONING FROM PRESERVED MEATS.—A timely suggestion has been offered by a German physician that the date of original preservation be stamped upon each and every can or package containing meat foods. It is held that preserved meats, hermetically sealed, may remain wholesome for a year or so, but that there is danger in the use of such foods after this period.

PAGET'S NEW BOOK OF CASES.—Sir James Paget has issued a new book, Longman's publishers, entitled "Studies of Old Case books," in which he discloses somewhat of his literary methods. He began to take notes with the very first case he ever saw, while he was yet an appren-

tice to a medical practitioner of Yarmouth. and he has continued during his forty years of practice the systematic recording of his cases. It is from his numerous volumes of notes that some of his former writings and these newly published "Studies" have been drawn. In the latter, as in earlier books, is displayed the same graceful diction and charm of polished style that have won for him friends among American readers who never saw him. In one of his essays he writes in autobiographic way of "An irregular pulse," his own, which record he closes with the sententious saying: "Few things are more inconceivable than are many things which are certainly true." And on another page when treating of spines that are suspected of being deformed he gives expression to this pithy precept: "Bad postures, long maintained, will bring on bad shapes, and even good postures, maintained with weariness are hardly less injurious." To those who may never hope to see this great surgeon in person this book gives an opportunity to view that winning mental part of him which can be reflected upon the printed page.

"WHEN DOCTORS DISAGREE."—The following resolution was passed at a late meeting of the British Gynecological Society: "That the Obstetrical Society be invited to appoint a sub-committee to act with the sub-committee of this Society to inquire into the cases in dispute between Sir Spencer Wells and Mr. Lawson Tait."

ORNAMENTED SKELETONS.—M. Vassellovski has recently discovered two caves in the Crimea which contain prehistoric remains. These include parts of human skeletons of which some of the bones give evidence of having been painted. It is probable that these relics come down from the time of the Cimmerians, of whom Herodotus wrote, regarding their strange rites of sepulture; it was their practice to expose the bodies of the dead at the top of some hill or promontory and there leave them until the bones had been picked clean by birds of prey; then the skeletons were collected and when completely dried were painted over with some mineral pigment.

DANGERS AND DAMAGES DUE TO FACTORY WHISTLES.—Dr. J. H. Albee has won a suit for damages, amounting to \$6,000, for a broken leg, which the jury at White Plains, N. Y., decided was chargeable to the blowing of a steam-whistle,

belonging to the shoe-factory at Chappaqua. Dr. Albee is a Rhode Island physician who had been summering at Chappaqua, in the summer of 1888; one day in July he with a friend was driving near the shoe-factory, when the whistle, known as the "seven-mile whistle," was blown; the horse they were driving became affrighted and ran away. The riders were thrown out of the wagon, and one of them, the physician, received a serious fracture of the leg. The injured physician, in this instance, may or may not have been engaged in professional duty when the whistle shrieked, but he has our sympathy in either case, and we hope that his cause is well and finally won. And for this reason: we thoroughly detest and reprobate the use of these life-endangering steam whistles, which disrupt the atmosphere for miles around. These seven-mile whistles serve no useful purpose that is imperatively demanded by trade or industrial pursuits, while they are in many places a daily menace to property on wheels, to limb and life of animals and men, and of the general practitioner, in an especial degree. These frightsome noises have no right to exist.

SCABIES AMONG THE CHINESE.—The *London Medical Review*, February, in some remarks on the low state of medical practice among the Chinese, states that whatever else may be lacking in their system, they do not stand in need of medical aphorisms. These have come down to them from numberless generations and are a large part of their stock in trade. One of these aphorisms, taken at hazard by the *Review*, is: "Out of every ten men eleven have the itch." While there is abundant testimony from other sources that the itch is very prevalent in China, we are forced to the conclusion that as a statistical statement the above aphorism is a failure. There is evidently no need for any parliamentarily inclined individual to rise up and "move to make it unanimous;" the unanimity is there already.

DR. KOCH IN EGYPT.—The overworked Professor Koch has gone on a trip up the Nile which will consume a fortnight or more. It is expected that he will be back again in Berlin directly after Easter to take up his new duties. The *Lancet* correspondent at Cairo writes that Koch arrived there on February 12, looking very thin and ill after five days' sea-sickness and all its attendant evils, and that he avoided all social entertain-

ment, proffered dinners, visits and the like so far as it was possible. Before leaving the city on the 14th, however, Koch found time to visit the Kas-el-Aini Hospital and the German Hospital and to inspect the cases under treatment, at both of them, by tuberculin. At the former institution he found not less than twenty cases of phthisis, lupus and tuberculous joints on which to lecture briefly as to the time and method, and quantity for the injection. He inclined to criticise here, as elsewhere, those operators who use the remedy with too much caution. He thought the doses were not infrequently too small and at too long intervals to procure the desired result.

Regarding the tourist-season on the Nile, the writer adds that despite the opening of new hotels and a new line of Nile boats, Cairo has never been so overcrowded before as it has been during the past winter; during four days of the week when Koch passed through not less than 500 travelers left the capital—250 to go up the Nile and as many more going in the other direction to the Holy Land, Athens, Rome and other points.

A STRIKING DEFINITION.—Dr. Holmes in his "Over the Teacups" defines a crank, "as a man who does his own thinking." They are called cranks because they "make all the wheels in all the machinery of the world go round."

AMERICAN ACADEMY OF MEDICINE.—The sixteenth annual meeting of the American Academy of Medicine will be held at Washington, D. C., May 2 and 4, opening at 3 P.M. May 2. As it will be just previous to the sessions of the American Medical Association, members will be able to attend both meetings.

MEDICAL ITEMS.

IDIOSYNCRASY TOWARDS FRUIT.—Dr. S. V. Clevenger, of Chicago, mentions a case (*Times and Register*) of marked aversion towards all varieties of fruit. The person is a young lady, now twenty years of age, and has always suffered from this peculiarity. She is sickened at once upon the sight or odor of apples, peaches, pears, etc., and she abhors sweets of all kinds. Dr. Clevenger desires that physicians having cases of a similar character should make them known to the medical world.

IOWA STATE MEDICAL SOCIETY.—The fortieth annual session of this Society will be held at

Waterloo, Iowa, Wednesday, Thursday and Friday, April 15, 16, 17. A cordial invitation is extended to the profession. An excellent programme has been prepared. Let every county or district society send a full representation of new delegates, and let the permanent members be in full force. The Chairmen of the different Sections and all officers of the Society are requested to meet in Waterloo on Tuesday preceding the annual meeting, to confer with the President, Dr. W. D. Middleton, and the Chairman of the Committee on Arrangements, Dr. D. W. Crouse, at such place as the latter may designate, for the purpose of arranging the programme and attending to other business matters. Reduced rates have been granted on all roads in Iowa. When you buy your tickets be sure to ask the agents for certificates that you have paid full fare one way. Present these early in the session for Secretary's signature. Any further information will be cheerfully given by C. F. Darnall, West Union, Secretary; W. D. Middleton, Davenport, President, or D. W. Crouse, Waterloo, Chairman of Committee on Arrangements.

DECREASE IN CANDY POISONING.—Owing to the increasing and constant warfare by the National Confectioners' Association, there has been a very marked decline in the number of instances of untoward effects from candy eating.

THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS will convene at Buffalo, N. Y., Thursday, April 30, 1891. This is a change of one week from the time previously announced, the change having been made so as not to conflict with the dates covered by the meeting of the American Medical Association.

AN EVIDENCE OF FAITH.—That faith as to the ultimate outcome of the Koch treatment strongly abides in the breasts of those constituting the municipal authority of Berlin is indicated by the movement now being made to found a home for convalescents who have undergone the new process of cure.

A NEW MEDICAL LIBRARY BUILDING.—In connection with the Boston City Hospital a building was recently opened and occupied for library purposes. The general arrangement is quite convenient, and the event of the opening was made the occasion of a hearty reciprocity of good feeling between the members of the various hospital staffs in the city.

TOPICS OF THE WEEK.

PROFESSOR KOCH'S TREATMENT OF TUBERCULOSIS.

Professor Virchow, at the meeting of the Berlin Medical Society on February 25, again referred to Koch's treatment, and showed some specimens in illustration of his remarks. He doubted whether the statement by Dr. B. Fraenkel, as to the duration of miliary tubercle, based on inoculation experiments, was correct—namely, that a period of three weeks is required for its development. The question was one to be decided by clinical observers, for it could not be determined by pathologists. If one were to admit that in all those cases in which miliary tubercle is found this has been present before the injections were practiced, then a much longer extension must be given to the duration of miliary tubercle than has hitherto been assigned to it. A distinction in this respect must be made between local tuberculosis and the general acute disease which creates such marked constitutional disturbance. He detailed a case of pleuritic effusion under the care of Professor Leyden, in which phthisical signs, with laryngitis and fever, developed whilst under treatment by Koch's injections, death supervening four weeks after the first injection. In this case there was very marked general miliary tuberculosis, submiliary granulations occurring in liver, kidneys, thyroid, larynx, and in parts of the peritoneum, including the recto-vesical pouch, as well as in the lungs, which were also the seats of old apical mischief. Here was a case which certainly did not come under the class referred to by Dr. Fraenkel, for it had been long under observation and had been injected before the supervention of the acute tuberculosis. Professor Virchow also showed a lung from a patient who had received eight injections, which presented a large caseous mass in process of separation, and an intestine exhibiting a very marked eruption of tubercles and implication of the lacteals in the vicinity of ulcers.

Professor Cantani, of Naples, in giving the results of his experience with Koch's remedy (*Berl. Klin. Woch.*, No. 9), points out that the important part of the method is the production of local reaction, which in some cases occurs without any general febrile disturbance. This local reaction, he said, is nothing else than a quickening of the natural processes whereby the organism seeks to get rid of the *materies morbi*. He found more marked improvement in cases where there was no fever and only slight local reaction—cases in which the commencing doses were very small, and their repetition with slight increase in quantity made at some intervals. He further explained that many of the alleged dangerous results of the treatment are prone to occur in the spontaneous course of tubercular disease, but may occur more readily and rapidly from the hastening of the necrotic process by the injections. Nor should the result of every case that is fatal whilst undergoing this treatment be assigned to the latter; and he did not doubt that when the time came for a full survey it would be found that the favorable results would counterbalance the unfavorable. As to the prospect of Koch's fluid curing tuberculosis, Pro-

fessor Cantani remarked that the changes observed in lupus were very hopeful. In the lungs the physical signs denote the occurrence of similar changes to those observed in lupus, and the increased bacillary expectoration was evidence of the focus being destroyed. But the impediment to the free removal of the necrosed area in the case of the lungs was against marked progress, although this was noted in some cases. The laryngeal cases showed more obviously the local improvement. Professor Cantani points out that phthisis embraces not only tuberculosis, but other septic processes due to the presence of pyogenic organisms; so that in advanced cases little can be expected from the treatment, which in such must be followed with the greatest caution, if at all. He did not think the time had arrived for a definite conclusion to be formed as to the efficacy of the method in phthisis, and deprecated too great enthusiasm on the one hand and depreciation on the other as contrary to the interests of truth. The remedy was new and its effects striking, but it must be further studied before its practical value is appraised. At any rate, Koch had shown the path to be taken by bacteriology in the future, and the progress of knowledge would cause its further extension.—*The Lancet*.

MEDICAL MEN AND LITERATURE.

Literary production in other than professional fields has in all ages divided with more purely technical studies the power of attracting the mental energies of medical men. Such names as those of Roger Bacon, Sir Thomas Browne, Locke, Garth, and others have indeed so shone in the fame of letters that in their case an original connection with medicine has almost been forgotten. In these days the zeal for learning follows a more exclusively practical and scientific tendency. As if in harmony with the laws of the circulation, the cravings of the medical mind commonly find satisfaction within the round of its most familiar occupations. There are, however, not a few exceptions to this rule. We have not yet lost the medical poet or philosopher, nor have the efforts of romance in prose been unassisted by practitioners of our art. To employ thus the precarious leisure of routine in practice cannot but refresh the mind of those most nearly interested, while recent experience might also be shown to prove that efforts thus applied have not been fruitless in refreshing the intellect of the reading community. Some faults might naturally be expected in the productions of a medical writer. Among the chief obstacles to his success may be numbered a too didactic style, a philosophic heaviness, above all, a tendency to excess in realism, particularly if engaged upon that now all-popular and most profitable form of composition, the novel. An error of discretion, indeed, may sometimes lead to serious embarrassment. Take, for example, the case of a medical novelist in France, who was lately called upon to answer the allegations of an indignant husband that his wife's morbid state was exactly reproduced in the heroine described by her doctor, who was therefore liable for a breach of professional secrecy. The case might well have been one in which the cap of the proverb was found to fit a head for which it was not made, but it may

serve, nevertheless, to accentuate the dislike to an exact description of morbid states and symptoms in which we must admit a share with many general readers. A high professional standard alike in literary taste and in true medical propriety is, we take it, best maintained by those who can discreetly separate what are in them related faculties, and be medical in their medicine but scholarly in letters.—*The Lancet*.

OFFICIAL REGULATIONS AS TO TUBERCULIN IN GERMANY AND ITALY.

The Prussian Minister of the Interior has given permission for the use of Koch's remedy for tuberculosis in prisons, under the following conditions: (1) A special department must be established for the purpose, (2) The medical officer in charge of these cases must reside in the institution, (3) In the case of patients with pulmonary phthisis, only those in whom the disease is recent, or who seem in other respects particularly suitable subjects, must be subjected to the treatment; and (4) the remedy must in no case be used against the patient's will. Surgeon-General von Coler has issued an order regulating the use of Koch's remedy for tuberculosis in the Prussian army. Each garrison hospital is to be provided with a special department in which the treatment can be carried out, and to this all cases of tuberculosis in soldiers belonging to the corresponding district corps which appear suitable are to be sent. The tuberculosis department is to be isolated from the others, and must be provided with all the necessary equipment for scientific observation. At a recent meeting of the Italian Superior Council of Health, the President, Professor Baccelli, presented a report on the Koch treatment, which was referred to a Special Committee. This committee has now submitted the conclusions at which it has arrived to the Council. The following is a summary of the committee's report: (1) The instruction issued by the sanitary authorities on December 14th, provisionally restricting the use of Koch's fluid to university and hospital clinics, is approved of, (2) Circumstances are now changed. The numerous experiments made in Italy and in other countries, and particularly those of Professor Baccelli himself, have better defined the true value of the remedy, and shown the indications for its use, and the possible dangers attending it. The committee therefore has no hesitation in proposing that the remedy be entrusted to the hands of individual members of the medical profession, just as they are allowed to use other remedies not less useful and at the same time not less dangerous. (3) Compared with other remedies in the pharmacopœias, however, Koch's fluid presents this difference while the purity and quality of these can always be kept under strict control, in the case of the latter there is no other guarantee than the fact of its coming from the institute in which it was originally discovered. The committee therefore considers it indispensable that the fluid should be introduced into Italy directly by the central authority, by which also it should be distributed under such conditions and with such safeguards as may be thought advisable. (4) Lastly, the committee recommends that in distributing the fluid the central authority should at the same time issue the necessary

instructions for its use, and should request the medical practitioners to whom it is supplied to report all the cases in which they employ it, and the results obtained. The committee's report was unanimously adopted by the Superior Council of Health.—*Brit. Med. Journal*.

THE BEQUESTS UNDER THE FAYERWEATHER WILL TO HOSPITALS.

The will of Daniel B. Fayerweather, late of New York City, by arrangement with counsel for the contestants has at length been admitted to probate. The error of the deviser was the having made too low an estimate for the adequate support of his widow. The exact terms of the settlement are not known to the public beyond the increase of income and a cash payment, both in favor of the widow. The estate is supposed to be worth five and a half millions of dollars, which after certain gifts and bequests leaves a remainder to be divided into ten parts: one to Yale, one to Harvard, one to Princeton, one to Columbia, one to the Presbyterian Hospital and five to the Woman's Hospital. As now arranged St. Luke's, the Presbyterian and the Manhattan Eye and Ear Hospitals receive each \$50,000; the Woman's \$210,000; the New York Eye and Ear Dispensary, the Manhattan Dispensary, the Montefiore Home for Chronic Invalids, the Mount Sinai, the Methodist (Brooklyn) and the New York Cancer Hospitals receive each \$25,000, while the Society of St. Vincent de Paul receives \$50,000. It is shown by the tabulated statements as given by the secular press that the \$25,000 bequests are gains to the institutions named by absolute deed of gift. So also the Society of St. Vincent de Paul gains its full amount, while St. Luke's, the Presbyterian, the Manhattan Eye and Ear Hospitals gain severally \$25,000 apiece, the Woman's Hospital \$200,000 and Mount Sinai \$15,000. While, on the whole, this estate so far has made the greatest gifts in this country for benevolence and education, we cannot but deplore the ignoring of a profession which has rendered all such charities possible. Truly there are many libraries in and about the cities and towns which might have been medically reinforced with profit to not over-wealthy physicians. Still, we are not inclined to jealousies.

LIVING MICRO-ORGANISMS IN TUBERCULIN.

The Russian commission for the study of Koch's method, headed by Prof. Wissotsky, received two packages of tuberculin, one from Libberts and the other from Guttman. Both were found to contain living microorganisms. From this the commission concluded that it would be wise to confine their researches to experiments upon animals and to bacteriological studies. Three packages secured later contained living microorganisms and, like those earlier received, were strongly alkaline in reaction.—*La Semaine Médicale*.

MEDICAL PRACTITIONERS IN PARIS.

The number of medical practitioners in Paris is stated to be 2,200. As the population of the French capital is 2,300,000, this gives a proportion of one medical man to about every 1,000 inhabitants.

PRACTICAL NOTES

ACUTE CYSTITIS.

Dr. A. W. Marsh, in the *Therapeutic Gazette*, strongly recommends the use of the following formula, requiring that *distilled* or rain water be used in its preparation to prevent the formation of oxalate of lime. The relief from pain is prompt and the results exceedingly satisfactory :

- R. Acid oxalic, gr. xvj.
Syr. aurantii cor., ℥j.
Aquæ pluv., q. s. ℥iv. ℥.
Sig. Teaspoonful every four hours.

FOR THE GRIPPE.

Dr. E. R. Palmer, of Louisville, says that with the recurring prevalence of the so called *grippe*, he suggests the following as a specific for adults in such cases :

- Salol, ℥ij.
Phenacetin, ℥ij.
Quinæ salicylat., ℥j.
M., fl. cap. xx. Sig. Two every three hours.

—*American Practitioner and News.*

WARTS.

- R. Hydrarg. chlor. corros., 1 part.
Collodion, 30 parts. ℥.
S. Apply once daily about the base of the wart.

—*Cincinnati Lancet-Clinic.*

AN INJECTION FOR GONORRHEA.

Prof. Keen gave the following formula to be used as an injection in gonorrhœa :

- R. Zinci sulphat., gr. xvij.
Catechu.
Matico, āā f ℥ jss.
Glycerini.

Aquæ, āā q. s. ad. f ℥ yj.

M. S.—Inject f ℥ss, retaining each injection for at least five minutes.

—*Times and Register.*

CREOLIN IN ACUTE GASTRO-ENTERITIS.

Schwinn has employed this drug with success in the following formulæ.

- R. Creolin, ℥ij.
Syrup althææ, ℥v.
Aq. cinnamonii, q. s. ad., f ℥ij. ℥.

S. To a very young child a small teaspoonful hourly. To older children the drug may be given in a powder.

- R. Creolin, ℥xv.
Sacchari alb., gr. lxxv. ℥.

Divide in Chart No. X.

S. One or two powders daily.

—*Wiener Medizinische Wochenschrift.*

FOR ASTHMA.

Dr. W. T. Plant, of Syracuse, N. Y., says that an asthmatic neighbor of his gets so much relief

from inhaling the smoke of a teaspoonful of the following combination that he wants all other chronic asthmatics to know about it :

- R. Stramonium leaves, āā ℥iv.
Green tea dust, āā ℥iv.
Lobelia, ℥iss.

Mix together and wet up with a saturated solution of nitrate of potassium. Dry thoroughly and keep in a close can or well stoppered bottle.

—*American Practitioner and News.*

FOR ECZEMA, ETC.

In the case of a child 7 months old presenting the following symptoms : The food taken passed by the bowels undigested ; there was obstinate constipation ; the patient also had an eczematous rash upon the face. Dr. Rex prescribed the following treatment :

- R. Resinæ podophylli, gr. j.
Alcoholis, f℥j.
Aquæ, f℥ij.

℥. S. In drop doses.

For the eczema of the face :

- R. Acid. salicyli, gr. x.
Adipis, f℥j.

℥. S. Apply locally.

For a case of pharyngitis complicated with bronchitis, Dr. Brinton gave the following formula :

- R. Ammonii chloridi, gr. v.
Vini antimonii, gtt. x.
Vini ipecacuanhæ, gtt. x.
Mist. glycyrrhizæ comp., f℥j.
℥. S. Every three or four hours.

—*Times and Register.*

CROUP.

Dr. J. B. Johnson uses the following :

- R. Aquæ destillat., f℥j.
Potass. chlorat.
Potass. iodid., āā ℥j.
Emuls. arabicæ, ℥j.
Mucilag. acaciæ.
Ext. ipecac., fl.
Olei copaibæ, āā ℥j. ℥.

S. Shake well. Dose, a teaspoonful every ten minutes, to an infant of 8 months, till free vomiting ensues; and then continue the same dose every half hour or hour until the disease is cured. The dose must be given according to the age of the child.

—*New England Med. Monthly.*

CYSTITIS.

This remedy is highly spoken of by a number of practitioners in genito urinary diseases, and more especially in cases of cystitis, following operations, or from other causes. One of the best formulas is that of Dr. Hal. C. Wyman, which is as follows :

- R. Fl. ext. picchi, ℥j.
Potass. nitr., ℥j.
Simple elixir, ℥ij.

℥. Sig., teaspoonful once in two hours.

—*St. Louis Med. and Surg. Journal.*

SOCIETY PROCEEDINGS.

The Clinical Society of Louisville.

Stated Meeting January 13, 1891.

THOS. P. SATTERWHITE, M.D., PRESIDENT, IN THE CHAIR.

DR. L. S. MCMURTRY presented a specimen from

A CASE OF EXTRA-UTERINE PREGNANCY

with the following history :

Mrs. S. E. M., age twenty-seven years, married nine years. Eight years ago she suffered an abortion at three months, has had uterine disease ever since, and has been sterile. She missed the menstrual period in November, and on December 7th called to see her physician, Dr. George W. Griffiths. Her complaints were of general abdominal pain and discomfort. She again called on Dr. Griffiths on December 11th. On the 13th, two days later, she had a violent paroxysm of pelvic pain localized on the right side. Dr. Griffiths saw her soon afterward and administered a dose of morphia. She was relieved for the time. On the evening of the 18th Dr. Griffiths summoned me to meet him in consultation, and expressed the belief that abdominal section was indicated. The abdomen was swollen and tender with increasing peritonitis. There was a bloody flow from the uterus. The patient was pallid as from *post partum* hæmorrhage. Vaginal examination showed the uterus pushed to the left side and the pelvis choked with effusion. The pulse was 134, small, the pulse of hæmorrhage. The bowels had not acted for four days. We gave an energetic purgative, and arranged for operation the following morning.

Early on the morning of the 19th I opened the abdomen. Dr. J. W. Guest gave ether and Dr. Griffiths assisting. On opening the peritoneum a large quantity of blood flowed out over the table. More than a gallon of blood-clot was removed. The fetal ball was on the right side. The right appendage was tied off close to the uterus, the cavity irrigated with warm distilled water, a glass drainage-tube placed, and the abdomen closed. When put on the table the pulse was 140 and quite feeble. The appendage on the opposite side was not removed, as I feared to prolong the operation. The operation was concluded in thirty minutes.

The specimen is of great interest. You will recognize here the ovary, and here the ruptured Fallopian tube and the fetal envelopes. From this poured the fearful hæmorrhage, which invariably ends in death if not arrested by surgical interference.

This is the first case of extra-uterine pregnancy, so far as I can learn, operated upon in Louisville by abdominal section at the time of rupture. The

success of the case is due to Dr. Griffiths' recognition of the gravity of the situation, and advice for immediate operation.

Ectopic gestation is a very common accident. Hundreds of women perish annually from this cause because it is not recognized. Dr. Formad, the well-known pathologist of the University of Pennsylvania, as coroner's physician for Philadelphia, states that in one year he found post-mortem nineteen cases of ruptured ectopic pregnancy unrecognized. The symptoms are those of shock, internal hæmorrhage and peritonitis. The patients exhibit a history of sterility and peri-uterine inflammation. The fertilization of the ovum in the Fallopian tube is due to a desquamated salpingitis by which the lining of the tube is deprived of its ciliary epithelium. Extra-uterine pregnancy is almost invariably tubal. The tube ruptures about the twelfth week. It may rupture through the free surface of the periphery of the tube directly into the peritoneum, as in the specimen here presented. This is a deadly accident, if the hæmorrhage is not arrested by surgical means. The rupture may occur in the portion of the tube included between the folds of the broad ligament, allowing the fetal structures to escape into the cavity of the broad ligament. These latter are the cases of extra-uterine pregnancy which go on to a viable period. Extra-uterine pregnancy until very recently was not understood in its pathology, and was classified and treated as accidental hæmorrhage, hæmatocele, etc. It is now well known that most cases of hæmatocele so-called, are in reality cases of ectopic pregnancy. The treatment in all cases should be immediate abdominal section. The uterine appendages of both sides should be removed, inasmuch as the predisposing salpingitis is symmetrical. I have now operated in three cases within the last two years for ruptured tubal pregnancy, and all have recovered. The only safety in such a condition is immediate operation. The diagnosis before rupture is practically impossible. When rupture occurs the indications for surgical interference are as positive as in treating a wound of the brachial artery.

DR. GEORGE W. GRIFFITHS: I can add very little to the history as already detailed. As soon as the symptoms of shock and hæmorrhage appeared I advised operation. I have witnessed a great many bloody operations, and in my work as railroad surgeon have seen many severe accidents, but I must say that when the abdomen was opened in this case and the blood gushed out it was the most formidable operation I have ever seen. I saw the patient to day and she is entirely healed and well, though she is pale from the severe loss of blood. She went out to the table and ate with the family to-day for the first time, three weeks after the operation.

DR. I. N. BLOOM: Had the symptoms been

more pronounced the night you first saw her would you not have operated immediately?

DR. McMURTRY: Operation would have been immediately done had the diagnosis been absolutely positive. That is, of course, impossible before the abdomen is opened.

DR. J. A. OUCHTERLONY: I do not know when I have seen a specimen and heard a report so interesting and of such great practical importance as this. It brings vividly to my mind a number of cases I have seen during the past thirty years, which were diagnosed by myself and others with whom I was associated as pelvic hæmatocele, and at the same time there was always something inadequate in the diagnosis, and it seemed incomprehensible why there should be such terrific hæmorrhage and such profound shock. It is a great satisfaction to know that light has been shed upon this important and perilous condition, and that we can predicate accurately the pathological condition. Cases that formerly were considered to be cases of hæmatocele are now known to be ruptured ectopic pregnancy. A most pleasant reflection is the fact that these cases can be so successfully managed by prompt surgical interference. It gives confidence and hope to the medical attendant, and it is a warning, and a solemn one, to lose no time in adopting the prompt course of procedure taken in the case just reported.

DR. F. LEBER: Many cases of hæmatocele recover by absorption, without operative interference.

DR. McMURTRY: When rupture occurs through the free surface of the tube it is a deadly accident from hæmorrhage unless treated by surgical means. If the rupture, however, takes place into the folds of the broad ligament the effusion may become absorbed, or the fetus may develop there, forming abdominal pregnancy and going on to and beyond full term. The foetal mass may break down and suppurate, discharging through the rectum or the bladder. In any contingency the safest result is secured by abdominal section. There is less danger in abdominal section according to modern methods than by taking the risk of these several terminations.

DR. T. P. SATTERWHITE: It is the first specimen of the kind I have ever seen. I agree with the essayist that it is an exceedingly difficult matter to diagnose absolutely that condition of things. In several cases, which I have seen with Dr. McMurry, I considered his advice to open the abdomen unwise, but in every instance have been convinced that it was the correct course to pursue.

DR. F. LEBER: I was asked to see a young man who was injured out West. It was

A CASE OF CRUSHED FOOT.

When he arrived at his home in Louisville he had been treated for three weeks. The foot was,

in a very bad condition, and I advised amputation above the ankle-joint. This was refused, and the case was treated by another physician. I was again asked to see him, and again suggested amputation, which was refused. I report this case to say that in my opinion in all such cases amputation should be done above the ankle-joint. In my opinion Chopart's amputation has never been satisfactory. I recall to mind a case left in my care by the late Dr. Cowling, in which Chopart's amputation was done. It left a miserable pointed stump. I treated it for months with various devices, but never succeeded in getting a good stump. I was compelled finally to amputate. My experience during the war convinced me that none of these operations below the ankle gave such good results as amputating above the ankle.

DR. J. W. GUEST (by invitation): I had two cases of this description in the hospital. Both healed by primary union and were discharged at the end of one month. It seems to me that in doing Chopart's amputation you save the ankle-joint as a natural joint, which is better than an artificial one. At each of these operations tenotomy was performed to prevent the stump from pointing. My experience with Chopart's operation has confirmed that operation in my confidence. It gives a good solid base for a foot independent of any artificial foot.

DR. I. N. BLOOM: I wish to make a report of a case, although one case can not determine the method of treatment for a given disease. I recently had

A CASE OF SWEATING OF THE FEET.

The means I employed in this case were very simple. I had the patient bathe the feet in a solution of bichloride of mercury, 1 to 1,000, morning and evening. After rubbing the surface carefully so as to remove the dead epidermis macerated by the sweat. I directed the following course, which is partly though not wholly original. I had a plaster sole, partly soaked in a bichloride solution, put in the shoe, the solution being 1 to 1,000. After drying the sole and placing it in the shoe, I sprinkled it with powdered boric acid. As regards the advantage of this method of treatment, there is much diversity of opinion. In this case the result was quite satisfactory. If this treatment were uniformly successful it would point to a microörganismic origin for the disease rather than a neurological. My experience has been too short to determine, but this I know, that in many cases, especially of the lighter forms, it is of nervous origin. I have always found it much easier to cure simple hyperidrosis of the feet than of the hands, and have found that Hebra's method with diachylon ointment is the only one promising any hopes of success. I have tried many other means recommended by worthy men, but

always had to return to the diachylon. The inconvenience of this latter method is great, but patients bear it, or will bear any treatment that will help to get rid of the disagreeable disease. This is especially true of women.

DR. WM. CHEATHAM: I have seen recently three cases of congenital pharyngeal fistula. They all opened on the left side of the larynx. Colored fluid, such as the methyl-violet solution, injected into the fistula, passes into the pharynx; a peculiar viscid fluid, with air bubbles, escapes when pressure is made on the tract. These cases are very difficult to heal, as the course of the fistula is so sinuous, and the healing must commence at the pharyngeal end; the best method to close them is by the galvano-cautery wire.

DOMESTIC CORRESPONDENCE.

LETTER FROM BALTIMORE.

(FROM OUR REGULAR CORRESPONDENT.)

The Winter Course of Lectures at Johns Hopkins Hospital—Professor Welch on the Etiological Relationship of the Klebs-Loeffler Bacillus to Diphtheria—Professor Osler's Researches upon the Amœba Coli—The District Club—Miscellaneous Items.

Among the special courses given this winter at the Johns Hopkins Hospital are the following: "Valvular Diseases of the Heart" and "Practical Aspects of Cerebral Localization," by Prof. Osler; "The Pathology of Bright's Disease," by Prof. Councilman; "The Historical Development of Bacteriology" and "The Development of Modern Views on Immunity," by Dr. Abbott; "Special Subjects in Bacteriology," including "The Relation of Bacteria to the Infection of Wounds," by Prof. Welch, and special subjects connected with mental disease, gynecology and surgery, by Professors Hurd, Kelly and Halstead.

Contrary to the views of J. Lewis Smith, that "the Klebs-Loeffler bacillus has no more significance as a cause of diphtheria than the micrococcus of Oertel," and of Oertel, who "admits that the theory that diphtheria is due to bacteria, though plausible, is not proved" (Keating's Cyclopædia of Diseases of Children, Vol. i, p. 587, etc.), Professor Welch considers the evidence of the etiological relationship of this microorganism to diphtheria as now complete. He finds it always present in examination of the pseudo-membrane, and he has isolated, cultivated and successfully inoculated it upon animals. To all appearances, the membrane to which it gives rise is identical with that from which the infecting material was obtained. The bacillus in question, a rod-shaped organism, of about the same length as the bacillus tuberculosis but twice its thickness, is motionless, does not form spores, is nota-

ble for variety of shape, being sometimes clubbed or pear-shaped, sometimes of a dumb-bell form, and sometimes swollen in the middle. Often it is dotted, suggesting spores, but the effect of moderate heat upon these dots shows that they have not the vitality of spores. The fact that the bacillus has been discovered in other affections, as measles and scarlet fever, and even very exceptionally in the mouth in health, upon which so much stress has been laid, offers no obstacle, in Prof. Welch's view, to its acceptance, for many facts show that something more is required than the bacillus, viz.: an abrasion or a catarrhal condition of the mucous membrane. Without some such favoring condition, the bacillus will not gain an entrance and find a nidus for its lodgment and development. Prof. Welch gave minute directions for taking the membrane from the throat for examination and for the cultivation of the organism. He laid great stress upon the value of such examination for diagnosis, considering it to be the duty of every physician to fit himself for making it whenever the occasion requires.

Prof. Osler continues his researches upon the amœba coli, and a short time ago exhibited microscopic specimens from his tenth case. Hundreds of these giant amœbæ, which are nine or ten times as large as the white blood corpuscles, were seen upon the slide, undergoing continual change of shape. The last nine cases were indigenous. In more than one he was able to make the diagnosis of abscess of the liver with perforation into the lung, merely from finding the organism in the sputa. Such sputa present a very characteristic appearance, he says.

The Historical Club at the Hopkins continues to be well attended and to present interesting programmes. Many outside physicians interested in such subjects attend its meetings. In a sketch of John Archer, M.B., by Dr. J. M. T. Finney, the following interesting account of the circumstances attending the awarding of the first medical diploma in America is given: "In June, 1768, at the Commencement of the College of Philadelphia, afterwards the University of Pennsylvania, medical degrees were conferred for the first time in the New World. On that occasion there were ten candidates for degrees, their names being Archer, Carroll, Duffield, Potts, Elmer, Fullerton, Jackson, Lawrence, Tilton and Way. At that time, seven years before the War of Independence, the feeling among many of the colonists was still strongly in favor of the mother country on all occasions. Among their number were the faculty of Philadelphia College, all of whom had received their medical education in England. Immediately a controversy arose as to who should receive the first medical diploma on this side of the ocean. The faculty, animated by the feelings alluded to, declared their intention of conferring it upon the only Englishman

among the candidates—Potts by name. The other candidates protested; still the faculty would not yield. But the former, who had already passed their examination, demanded unanimously, with the single exception of the Englishman, certificates of their having so passed, at the same time expressing their determination to repair at once to Princeton, present their certificates to the faculty there and request diplomas from them. The idea of losing nine out of ten members of this, their first graduating class, was a little more than the faculty could stand, so they agreed finally to let the young rebels arrange the matter among themselves, whereupon they agreed to receive their diplomas in alphabetical order, except that they generously allowed the Englishman to come fourth in order, whereas a strictly alphabetical arrangement would have placed him eighth in the list. As Dr. A.'s name headed the list, he was the first of the candidates to receive his diploma. In the published history of the University, the list of graduates is printed in the order given above. The Princeton College and Philadelphia Medical College diplomas of this quite remarkable man are to be seen at the Medical Library room in this city, also his old mortar, medical ledgers and a pocket-case of silver-mounted surgical instruments which he used in his practice, as well as the proceedings in manuscript of the Hartford County Medical Society, held in his office in old Medical Hall over a hundred years ago."

Dr. Osler spoke of the first American surgery, published in 1776, and of its author, Dr. John Jones, who died in 1791 in Philadelphia. It was used as a manual by the medical officers during the Revolution. Dr. Hoch gave extracts from the "Ebers Papyrus," the oldest medical writing extant. It was written in the Coptic language, and was discovered in Egypt. It is preserved in the library at the University of Leipzig, stretching through two rooms, and is covered with glass for protection. It is still neat and clean. Its only medical value appears to be its antiquity. Dr. Kelly drew attention to a trial for witchcraft for deformed genitals, which took place in Virginia in 1705, and is given in "Howe's History of Virginia;" he believed it to be the only case of the sort reported in the Southern States.

Dr. John N. Mackenzie reported recently a case of tuberculosis of the lip in a negro, aged 35. The man first noticed an ulcer on the centre of the lower lip four months before he came under notice, having previously suffered from symptoms of pulmonary and laryngeal trouble. One month later he had noticed another ulcer at the right angle of the mouth, extending slowly and invading the inner surface of the cheek. When he came under notice (he was seen at the dispensary only twice, as he died shortly after), the central ulcer was slightly less in size than a silver quar-

ter, it was granular, oval, on one side shading off into the surrounding tissues, and on the other presenting a more or less clearly marked beveled border; its base consisted of flabby granulations, some resembling small tubercles, was covered with muco-pus, and had a worm-eaten appearance. The other ulcer presented similar appearances. The lip was swollen to three or four times its normal size. The tuberculous nature of the ulcer was confirmed by microscopic examination. The larynx showed the usual signs of tuberculous disease. The great variety of these cases was pointed out: of 114 cases of buccal tuberculosis collected by Delavan, in 1886, only two were seated on the lip. H. Mackenzie, of Edinburgh, refers to a third, a fourth was seen in Vienna, but not reported, and Prof. Welch had met with a fifth. As pointed out by Prof. Welch, it is possible that some of the cases reported as epithelioma of the mouth were of this nature.

Dr. Charles E. Simon, Assistant Physician at the Hopkins Hospital, having tested the urine in almost every case occurring in that institution, and also cases in health, has not obtained Ehrlich's test (the so called diazo-reaction) in any cases except phthisis and typhoid fever. Contagious diseases were not included in his researches.

A department for teaching the science and practice of invalid cooking has been organized in the Johns Hopkins Hospital Training School for Nurses, under Miss Hampton, the Superintendent. A competent teacher was secured from the Boston Cooking School. Two pupils are sent to her for a month at a time and their hours of duty are from 7:30 A.M. to 5:30 P.M. The chief portion of the instruction is given in the cooking school kitchen which is in a room convenient to the wards. The method of preparing about 150 different articles of sick diet is taught during the month, and all the beef tea, chicken-broth and mutton-broth for the use of the hospital are made each morning by the pupils. Theoretical instruction by lectures is given in the afternoon. Each pupil is required to give a practical test of her proficiency at the end of her month by preparing as large a number of dishes without aid from her teacher or notes as possible. There are also oral and written examinations. The approximate cost of establishing and providing such a school for the first year is \$600, after that \$300 or less. Itemised, the expenses are: complete outfit of utensils, \$70; range, \$20; tables \$8; dresser, \$3; china closets, \$3; sink, \$15; other details, \$5; teacher's salary, \$30 per month; cost of teaching material per month, \$6 to \$8; fuel, \$1.50. The school has been working for six months and its value has been demonstrated.

The University of Maryland Training School for nurses is in a flourishing condition, under the able direction of Miss Parsons, Superintendent, an English nurse trained at St. Thomas' Hospital,

London, and in the Egyptian campaign under General Wolseley. She was decorated by the Queen with the royal red cross. It was established primarily to supply nurses to take the place of the Sisters of Mercy, who left the University Hospital two years ago, and the present class (the second) consists of twenty students. A concert and tea were tendered to the nurses on the 25th ult. by the wives of the members of the medical faculty. Notwithstanding the unfavorable weather, a large and distinguished company assembled, comprising many of the élite of the city. The interior of the hospital was beautifully decorated with potted plants, and the whole building with its bright and cheerful rooms, and its spotlessly clean corridors was thrown open for inspection. In the nurses' sitting-room a table was spread with good things, lit up by wax candles in shining candelabra and under yellow shades. After addresses by Prof. Chew and Miss Parsons, outlining the work and methods of the hospital and training school, a delightful musical programme was rendered by several of our best vocalists, including two of the alumni of the University, Drs. Hopkinson and Sanchez. The establishment and success of this school have been most gratifying to the authorities of the University; it not only supplies the nursing service of the hospital in the most effective manner, but promises likewise to supply a much-felt want in the community. The nurses have a thorough training both in the general and in the Free-Lying-In Hospital of the University near by.

On Thursday, January 15th, in the presence of a number of city officials and several members of the medical profession, the new morgue was turned over to the Health Commissioner by the Inspector of buildings. Dr. Robé, Health Commissioner, made an address in which he stated that the small amount which had been appropriated (\$4000) had been judiciously spent, after due examination of similar structures elsewhere, and he did not believe there was a building in the country better adapted for the purpose of a morgue than this one. It has an office, an inquest room, a cold storage-room containing a refrigerator capable of accommodating five bodies, an autopsy room, a room for surgeon's instruments, a cabinet room for the effects of the deceased, an elevator, closets, etc. A lunch was served at the close of the exercises. The cause of the medical education of women, which received such an impulse by the action of the Johns Hopkins Hospital authorities, has been further strengthened by the able advocacy of Cardinal Gibbons, the Roman Catholic Archbishop of Baltimore. In a letter recently published, he says there is no obstacle in ecclesiastical or canon law to the study and practice of medicine by women. "I do not hesitate to say," he says, "with due deference to the judgment of others,

that in my opinion it is important to the well-being of society that the study of medicine by Christian women should be continued and extended. The difficulties that are said to attend their pursuing the necessary studies in the same schools with men may be obviated by judicious precautions, and these difficulties should not debar women from the profession of medicine. The prejudice that allows women to enter the profession of nursing and excludes them from the profession of medicine cannot be too strongly censured."

The annual reports for 1890 of our two special Eye and Ear Hospitals—the Presbyterian, and the Baltimore Eye, Ear and Throat Charity Hospitals, were published in January. In the former, which is much the larger, being supported with zeal and liberality by the large and wealthy Presbyterian denomination of this city, there were 9096 entries, with an average work-day attendance of 115; 1,517 operations were performed and 586 patients were treated in the wards averaging 9 days for each. In the other institution, now in its 9th year, 2,620 patients were treated; 971 of these were colored and 1,649 white; 1,632 were eye cases, 414 ear, and 599 throat cases; 226 operations were performed. The dispensary recorded 8,329 visits.

A course in hygiene is being conducted and will continue through the spring at the Johns Hopkins Hospital, under the direction of Drs. John S. Billings and Alex. C. Abbott, the latter assistant in bacteriology and hygiene; it consists of lectures and laboratory work, and embraces studies and investigations in the hygiene of atmosphere, water, ground, milk, meat, heating, ventilation, disinfection, building material and clothing. It is announced that Dr. Abbott has received and will accept a call to the hygienic laboratory of the University of Pennsylvania.

The Academy of Medicine of Baltimore is defunct. Instituted in May, 1877, by a number of the older physicians of the city, it began an unpopular career by requiring that candidates for membership should have been ten years in practice. Later it relaxed so far as to permit those excluded, to enter upon the presentation of an acceptable thesis. A few availed themselves of this privilege to become members, but the society never was vigorous, and ultimately perished for the want of that young and working element of which it had voluntarily deprived itself. There were those who thought that had it begun by requiring of all its candidates without regard to age, theses, the result would have been different.

At recent elections held in our several societies, the following were chosen presidents: Gynecological and Obstetrical, Dr. Henry M. Wilson; Medical Association, Dr. J. Edwin Michael; Medical and Surgical Society, Dr. David Street.

A change in the editorial management of the

Maryland Medical Journal places Prof. J. Edwin Michael in charge of that journal, whilst the retiring editor, Dr. Wm. B. Canfield, assumes charge of our new journal, the *Baltimore Medical and Surgical Record*. Dr. Michael is one of our best writers and speakers, and is energetic, courageous and talented. His appointment promises well for the future of the journal.

To the Alumni of the University of Maryland, scattered far and wide, it will be of interest to learn that the present class of the old school have adopted maroon and black as the University colors, and a yell—"Rah! Rah! Ree! U-ni-V of M.D. Rah!"

Although the Koch lymph has been used in our four principal hospitals, no results have been made known as far as I have seen except those at the Hopkins. Whilst the expressions of the Hopkins staff are reserved, they are decidedly favorable. More time is evidently required to know the true value of the method, and the cautious utterances of Dr. Osler and his associates cannot but elicit our commendation. Prof. Osler met with one case, where, although there were bacilli in the sputa, and other evidences of phthisis, there was no reaction after injections of 0.003 mg. of the fluid.

According to the figures of the Federal Census taken last June, Baltimore then had 434,439 inhabitants; the police census taken in November made it 455,427, the increase in ten years was 101,838 or 30.34 per cent.; about one fourth of this increase was derived from annexing two miles of territory on the north and west of the city. During the same period the per cent. of increase in the State at large was only 11.28. The city has been steadily gaining on the State ever since the first census in 1790; at that time, it had only 4.22 of the State's population, whereas in 1890 it had 41.73 per cent. E. F. C.

BOOK REVIEWS.

ILLINOIS STATE BOARD OF HEALTH. Seventh Report on Medical Education, Medical Colleges, and the Regulation of the Practice of Medicine in the United States and Canada, 1765-1891. Medical Education and the Regulation of the Practice in Foreign Countries. By JOHN H. RAUCH, M.D., Secretary, 1891.

For the first time in its history the Report on Medical Education, issued by the Illinois State Board of Health, embraces the medical institutions of the whole world. This is a feature that will be an assistance to medical boards that have to determine the value and validity of a medical diploma.

As regards medical education in the United

States, the Report shows the marked changes for the better that have taken place in the past ten years, and it is seen that more progress will be made within the next two years. Most of the changes for the better that have been made in this century have occurred since 1881, when the first number of this Report was published, and since 1882-83, when the schedule of minimum requirements of the Illinois State Board of Health went into effect. In 1882 only 45 colleges in the United States and Canada required educational qualifications for matriculation; now the number is 129. Of the 148 medical colleges 123 now teach hygiene and 119 teach medical jurisprudence. In 1882 these branches were taught in 52 and 61 colleges, respectively. In 1882-83 the average length of the lecture terms was 23.5 weeks; the average is now 26.3 weeks. There are now 111 colleges that have lecture terms of 6 months or more, while in 1882-83 the number was 42. A table shows the results of the examinations before the State Boards of Medical Examiners of Alabama, Minnesota, New Jersey, North Carolina, South Carolina and Virginia, since the dates of their organization. Another table shows the results of the Prussian State Examinations in 1890.

Special attention is called to the fact that in some of the largest universities in this country courses preliminary to the study of medicine are now offered—the University of Pennsylvania, Cornell, Yale, Princeton, Lake Forest and Northwestern Universities, Johns Hopkins and the University of Wisconsin, while Harvard has made arrangements by which those intending to study medicine can take a special A. B. course in three years. The course offered by the University of Wisconsin is fully outlined, as is the one that was proposed by the Medical Department of the University of Michigan, but was rejected by the joint faculties. The Report shows a marked increase in requirements as to preliminary education during the year 1890. It shows also that the movement for four years' study and three courses of lectures is an assured success, and a list is given of the colleges that have adopted or will soon adopt the requirements of longer terms of study.

Several State Boards, having authority similar to the Illinois Board, have already adopted the requirement in this respect, and those that have not already done so, will in a short time coöperate in the movement. The potency of this factor will be appreciated when it is considered that these boards directly control the recognition of diplomas in an area embracing about 41,000,000 people, and indirectly in almost the entire area of the United States; and that a number of them exercise jurisdiction in the new States and Territories.

It is suggested in the Report that, with four

years' study and three courses of lectures assured, the boards of medical examiners and the colleges should cooperate in establishing a system of registration of medical students before they enter college, in order that the requirement of one year of study outside a college may not be a mere form.

A correct *résumé* of the Medical Practice Acts in the different States and Territories is a valuable addition to the Report. Comprehensive tables show the progress made towards higher medical education in the past ten years, with the numbers of matriculates and graduates for each year, and the percentage of graduates to matriculates. These tables show the effect of the schedule of minimum requirements of the Illinois Board after the session of 1882-83. In 1882-83 the total number of medical students in the United States was 12,274, while in 1884-85 it was 10,987; and the 12,000 mark was not reached again until 1887-88. The percentage of graduates to matriculates in the United States has fallen from 35.8 in 1881-82 to 30.1 in 1890. The percentage in Canada has not reached 24 in ten years.

That portion of the Report devoted to institutions and regulations in foreign countries contains in full the requirements of the examining boards in Great Britain, with the names of all the medical schools and of all the hospitals in which instruction is given. The requirements as to preliminary education in foreign countries are given for purposes of comparison, as well as the requirements for graduation and for the license to practice. The course of study and the semesters in which the various subjects should be taken up, as advised in the German universities, as well as a description of the German method of examining for the license to practice, are given in full. In addition, the correct names and locations of foreign medical institutions are given.

A COMPEND OF DISEASES OF CHILDREN. Especially adapted for the use of medical students. By MARCUS P. HATFIELD, A.M., M.D., etc. With a colored plate. Philadelphia: P. Blakiston, Son & Co. 1890. Pp. 185. \$1.00. (Quiz-Compend No. 14.)

We have no hesitancy in saying that the neat little volume before us is a succinct presentation, in a pleasant form, of *many* of the diseases of children. To say that it is a *complete* compend would require the critic to ignore almost wholly the existence of such an important feature of the human economy as the respiratory system.

Of all the diseases of early life a very large number belong to either the digestive or respiratory tracts; yet, whereas upwards of forty pages are devoted to diseases of the digestive apparatus, it is impossible to find space given to respiratory affections—aside from two or three pages upon atelectasis pulmonum and asphyxia neonatorum. The author must certainly have a due apprecia-

tion of such diseases as catarrhal laryngitis, pseudo-membranous laryngitis, bronchitis, pneumonia, pleuritis, etc., and the importance of their intelligent treatment at the bedside of the child.

The subject of intestinal worms, also, remains untouched.

NECROLOGY.

Professor Charles T. Parkes.

Charles T. Parkes, Professor of Surgery in Rush Medical College, one of the leading and most popular surgeons in the United States, died at his home, No. 51 Lincoln avenue, Chicago, Ill., March 28, at 3:30 A.M. Death resulted from pneumonia produced by an attack of the "grip," the illness dating from Monday, March 16.

Dr. Parkes was born in Troy, N. Y., in 1847. He served during the war in an Illinois Volunteer Regiment, and was mustered out as Captain in 1865.

Entering upon the study of medicine he at once assumed a foremost position in his classes, and from 1868 until 1875 was Demonstrator of Anatomy in Rush Medical College. He was then advanced to the Chair of Anatomy, which professorship he held until his appointment to the Chair of Surgery in the same institution, made vacant by the death of Prof. Moses Gunn. His advancement in his profession was phenomenal, and this sudden termination to his brilliant career will bring grief to the hearts of all who knew him.

The family of Dr. Parkes is sojourning in Europe; his wife and only daughter being in Italy, and his only son in Paris, to whom the sad news has been cabled. His remains have been placed in a receiving vault to await their return. This signal loss to his city, to his State, and to the country will be more fully referred to when by the faculty of his college and by the various medical organizations, in which he rendered such conspicuous services, appropriate action shall have been taken.

ASSOCIATION NEWS.

American Medical Association.

The Forty-second Session of the American Medical Association will be held in Washington, D. C., on Tuesday, Wednesday, Thursday, and Friday, May 5th, 6th, 7th, and 8th, commencing on Tuesday at 11 o'clock, A. M.

Section of Oral and Dental Surgery.

The following is a list of Essayists (with subjects), who have promised to prepare papers for the Section of Oral and Dental Surgery:

Address of the Chairman of Section, Dr. Eugene S. Talbot.

"Adenoid Growth," Dr. W. H. Atkinson.

"Treatment of Fractures of the Maxilla," Dr. Wm. Carr.

"Genesis of 'Contour Fillings,'" Illustrated. Dr. Geo. S. Allan.

"The Teeth of Invertebrate Animals," Dr. A. H. Thompson.

"Some practical points on the care of Instruments," Dr. Wm. H. Potter.

"Rheumatic and Gouty Diathesis as Manifested in Diseases of the Paridental Membrane," Dr. John S. Marshall.

"Dental Infirmary Patients,—The Use and Abuse of Dental Charity," Dr. Richard Grady.

"Growth of the Cementum," Dr. R. R. Andrews.

"Remarks on Incipient Necrosis and Caries," Dr. J. Williams.

"Choice of Therapeutic Filling Materials," Dr. W. A. Allport.

"Thorough Dentistry vs. Partial Dental Surgery," Dr. J. Y. Crawford.

"Pathological Conditions produced by Galvanic action between dissimilar Metals in the Mouth," Dr. George W. Whitefield.

Other members who desire to read papers before this Section, should as required by the By-Laws, forward the paper or its *title* and *length*, to the Chairman, Dr. Eugene S. Talbot, 125 State St., Chicago, Ill., one month before the meeting.

HENRY W. MORGAN, Sec'y.

Nashville, March 25, 1891.

*Preliminary Announcement of Programme of the
Section of Neurology and Medical Juris-
prudence.*

"Psychological Social Problems," by Daniel Clark, Toronto, Canada.

"Status Epilepticus," by Gros R. Trowbridge, and Chas. B. Mayberry, Danville, Pa.

"The Neuroses from a Demographic Point of View," by Irving C. Rosse, Washington, D. C.

"The Functional Degeneracy of the Brain," by J. T. Searcy, Tuscaloosa, Ala.

"Diagnosis of Traumatic Lesions in the Cerebro-Spinal Axis and the Detection of Malingering Referred to this Centre," by B. A. Watson, Jersey City, N. J.

"A Consideration of Traumatic Lesions of the Spine Resulting from Railroad and Other Injuries; Their Immediate and Remote Results, Etiology, Pathology and Diagnosis," by Thos. H. Manley, New York, N. Y.

General discussion of "The Traumatic Neuroses with Especial Reference to Railway Injuries," to be opened by R. Harvey Reed, Mansfield, Ohio.

"Rib-Fracture in Insane Hospitals in its Medico-Legal Aspects," by Jas. G. Kiernan, Chicago, Ill.

"Medico-Legal Investigation of Death by Violence in the State of Massachusetts," by Silas B. Presberry, Taunton, Mass.

"A Medico-Legal Study of Blood Corpuscles in Syphilis and Other Diseases," by Ephraim Cutter, New York, N. Y.

"On What Constitutes Reliable Evidence in Trials of Criminal Poisoning," by John Reese, Philadelphia, Pa.

"Hallucinations of the Sane," by David Inglis, Detroit, Mich.

"Personality as it Effects Inebriety," by T. L. Wright, Bellefontaine, O.

"Opium Inebriety, its Legal Recognition and Treatment," by W. S. Watson, Matteawan, N. Y.

"Ether Inebriety," by Norman Kerr, London, Eng.

"The Prevention of Opium Inebriety," by J. B. Mattison, Brooklyn, N. Y.

"The Treatment of Opium Neuroses," by Stephen Lett, Guelph, Canada.

T. D. CROTHERS, M.D., Chairman,
HAROLD N. MOYER, M.D., Sec'y,
434 W. Adams street, Chicago.

SPECIAL CORRESPONDENCE.

Shall The Journal be Removed to Washington?

ACTION OF THE NORTH CENTRAL OHIO MEDICAL
SOCIETY.

The following preamble and resolution was unanimously adopted and ordered published in THE JOURNAL at the forty-first quarterly meeting of the North Central Ohio Medical Society, held at Mansfield, Ohio, March 27, 1891:

WHEREAS, An effort is being made to remove THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from Chicago, Ill., to Washington, D. C.; and

WHEREAS, THE JOURNAL which was born in Cleveland, Ohio, has been so well nurtured in Chicago that it has grown from a dependent, unsupported infant, to an independent self-supporting adult, which commands the respect and support of the profession throughout the Continent, and now stands among the first of any of its colleagues in America; and

WHEREAS, It has accomplished all this in the short space of seven years through the judicious management and untiring energies of its Trustees, Supervising Editors and Business Manager.

THEREFORE, Be it resolved that it is the sense of the North Central Ohio Medical Society in convention assembled this 27th day of March, 1891, at Mansfield, Ohio, that it is against the best interests of THE JOURNAL and the Association to have it removed from Chicago to Washington, and hereby instruct our delegates to oppose such removal.

R. HARVEY REED, J. W. CRAIG, M. J. FINLEY, A. V. PATTERSON, J. HARVEY CRAIG, W. H. RACE, W. H. SYKES, A. H. MCCULLOUGH, R. D. SYKES, F. C. LARRIMORE, W. S. MECKLEM, W. M. MILLER, W. E. LOUGHRIDGE, Geo. MITCHELL, Josiah S. HEDGES.

Very respectfully submitted,

R. HARVEY REED, Prest.

J. S. HEDGES, Sec'y.

To the Editor:—I protest against using any more of the space of THE JOURNAL discussing its removal, and with S. E. Hampton, M.D., of Kentucky, move the previous question. Am willing that it should remain at Chicago, only make a good Journal of it. Am happy to note improvement.

L. M. GATES, M.D.

Scranton, Pa., March 23, 1891.

To the Editor:—As many of the letters in THE JOURNAL opposed to its removal to Washington are from the West, I write, as originally from New England and living East, to express my opinion and firm belief that the best interests of THE JOURNAL will be served by keeping it in Chicago.

The fact that full delegations of the profession in and near Washington will be at the meeting to vote for removal should induce delegates of the North, South and West to attend the meeting and vote against removal, so that the small percentage of membership favoring removal may not out-vote the vast majority opposed to removal from the remoteness of one party and nearness of the other party to the place of meeting.

F. B. DAVISON, M.D.

Fleetville, Lackawanna Co., Pa.

To the Editor:—It is a poor plan to swap horses while crossing a stream. THE JOURNAL is successful and grows steadily more so, and I see no valid reason for making any change in its present location.

JOHN P. GRAY, M.D.

Utica, N. Y., March 28, 1891.

To the Editor:—Had I a dozen votes on the location of THE JOURNAL not one of them would be cast for Washington; it should, in my opinion, be published at some central point: Chicago, Cincinnati, or St. Louis; but if it is to go East, let it be to Philadelphia, New York, or Boston.

Washington is the place for many things of National importance;—a quiet place for legislators to meet—it is a National burying ground full of monuments; there can be found the remains of many men, things, and enterprises; in fact hundreds of clever, live men are buried there in the various departments yearly, but Washington is not the place for the headquarters of the American Medical Association or its organ. Keep the one on wheels, the other in Chicago. J. W. HOLDAY, M.D.

Burlington, Ia., March 28, 1891.

To the Editor:—It seems strange that the whole membership of the American Medical Association should be so aroused over the question of the removal of the home of THE JOURNAL, if it is to be such a gain as some would make it appear.

Is it possible that Washington City can furnish us so much better editorial material and the Association not find it out until it has been told to us by themselves or their allies in *intrigant*?

When a question of so much moment as the resigning of so important a journal to an ignominious death to furnish a stepping-stone for somebody to raise themselves into greater prominence is to be met, it seems as if the whole membership ought to be questioned, and each allowed himself to answer.

A selfish motive, cloaked as this was at birth, cannot expect to meet with any other answer from them against whom the scheme was laid, and *now an answer should be given that would henceforth doom such actions to infamous obloquy*. The suddenness and untimely hour of springing the subject does not show honesty of purpose, and since the question is being agitated, how few champions are showing in the list for the unseemly act, and when one does he is unkind enough to make charges of incompetency against the editorial management, and the manner in which the Trustees are conducting the publication. Men who stoop to vilify their compeers do not, at least, show a generous nature, into whose hands one would desire to place a trust of so much importance as the control of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

If there be not "method in their madness," why did they so secretly secure the promise of furtherance of their scheme by a member before he was promised the nomination to fill a vacancy on the Board of Trustees last spring? It is such Washingtonian acts that have so aroused the members in all parts of this great country to answer against the removal. This is not the work or wish, seemingly, of a North or South, an East or West, but that of a few with wild dreams of imaginary honor, who live to thrive on "such stuff as dreams are made of." Were they to be deprived of the National pap, and left to their own ability and natural resources, they would dwindle into less than nature had ordained them.

Men and their works do not become great because of the opportunities offered, but because of opportunities accepted and made use of.

Chicago may yet lead Washington in extensive libraries and institutions of learning, because of its inherent energy and push to the front. If there be any stored-up energy in Washington otherwise than that which bubbles and seethes in the political caldron, would it not be well to take it to Chicago, where it can find a wholesome atmosphere to thrive upon and freedom of association of its kind? The home of THE JOURNAL undoubtedly was at first well chosen, at least it has proven well; and it is but fair to keep it where it has prospered so well.

A. M. VAIL, M.D.

Rock Rapids, Ia., March 25, 1891.

Editorial Opinions of the Medical Press.

In another column will appear the proceedings of a recent meeting of the Board of Trustees of the American Medical Association Journal at Washington. As will appear, the Board has announced as its belief, that Washington City is the proper place for the home of THE JOURNAL. The editor of the *Mirror*, as a member of the Board of Trustees, has favored and does favor, not only as a member of the Board, but as an individual, the removal of the Association Journal to Washington. He believes that the action of the Board in deferring the final decision until the meeting in May and inviting an expression of opinion from the profession at large upon the subject, was appropriate. A number of members of the Association in the West, near and dear friends of the writer, have expressed the thought that THE JOURNAL ought not to go East; that it was now in the West and that we ought to keep it here. Were the effort being made to remove THE JOURNAL to New York, Philadelphia, Boston, or any other commercial Eastern city, we believe that the argument would hold; that it would be removing it to the Eastern line and away from the centre. The same argument might be brought against its removal to any of the other cities of the West. As a matter of fact, Chicago is not a Western city. Chicago is, more properly speaking, a branch of New York City, although it is supposed to be a representative Western city, it is not at all so. Were geographical considerations to have weight, St. Louis would be more properly the centre. Unquestionably it is the hub of the Continental wheel, toward which all the spokes point.

It is the distributor of supplies to a greater territory than any other city in America. But in spite of these arguments, we are not in favor of the removal of THE JOURNAL to St. Louis; nor would we favor its removal to Cincinnati, Louisville, or any point South. In truth, any commercial city in America, suggested, would be a sectional suggestion. The removal of THE JOURNAL to Washington, however, the home of the National Government, is appropriate. A representative of the American medical profession, a National medical journal, should unquestionably be located in the Nation's Capital, the only unsectional point in America. We are strong in the conviction that this is not only the patriotic view to take of the question, but it is the view that is in the direction of the best good to the American Medical Association. A by-law, which was adopted some years ago by the Association, provided for every alternate meeting of the Association to be held in Washington City, looking toward Washington City as being eventually, in fact even now, the home of the National Association. If appropriate efforts were made, unquestionably a very large fund could be secured and a permanent building erected for the accommodation of the Association and its Journal in Washington. The various International Congresses are held the world over in the capitals of the various nations. The home of the *British Medical Journal* is in London; in fact, we are strong in the belief that all the arguments are in favor of the permanent home of the American Medical Association and its official organ, being located in the Capital of the Nation. If the time ever comes, that the Capital should be moved to a more central point, geographically speaking, then let the Association follow the Capital. In the meantime, we hope that there will be a full and free discussion in every medical journal of the United States. The Board of Trustees of THE JOURNAL have invited the freest discussion on the part of the members of the profession. The *Medical Mirror* will be glad to hear from those of the profession who are interested in the question.

In the meantime, we are on record as being in favor of the National Capital as the home of THE JOURNAL; but we are open to conviction, and shall remain in a receptive state of mind, ready for the suggestions and arguments of all friends of the Association.—*Medical Mirror*, Dec., 1890.

According to an official report of a meeting of the Board of Trustees of The Journal, held in Washington, D. C., Nov. 13th, 1890, three things were done:

1. The Board called upon the President of the United States.

2. It resolved that the home of The Journal should be in Washington, and that the Association should be so informed.

3. The Trustees recommend that the members of the Association, and the various State and local societies, contribute funds for the erection of a permanent building as an office, library, etc., of the American Medical Association.

Aside from some criticism of the Secretary's mode of keeping his book, this is all the Board report having done at this meeting; and yet a fair estimate of the actual expenses of the members in attendance will make it cost not less than three hundred dollars—probably four hundred would be nearer correct. Is the Association so rich that it can afford to pay its Trustees three or four hundred dollars to make a trip to Washington, in order that the Board may visit the President of the United States, and announce gravely to the Association that it should permanently locate The Journal in Washington, and call upon individuals and societies in the profession for funds to erect a building?

The members of the Association would like to learn why the Board of Trustees, or any portion of it, deemed it fitting to gravely announce its opinion upon the subject or subjects, and why Washington is better than Chicago? This is a question for the Trustees to answer! Further, what reason is there for making this question prominent just now? We desire to vote and act intelligently upon this question, hence seek for information.

We do know that several years ago the Trustees carefully secured bids from publishing houses, printers, etc., in all principal cities of the United States, with the uniform result of ascertaining that Washington was the most expensive, and Chicago the cheapest, place of publication. Have the Trustees made full and complete investigations, with the result of finding a cheaper place of publication than Chicago? If so they should have announced the fact, and the grounds upon which it rested.

Do the Trustees desire to move The Journal to Washington because hitherto every medical journal issued there came to an untimely end? Can it be that they desire to plant The Journal in a spot hitherto noted for its failures in medical journalism? Have they a hope that under the special influence for which Washington is noted, The Journal of the Association will die an easy and painless death? Or is it because the Trustees have a grudge against eastern medical journals in general, and the medical weeklies in particular, that they desire to transfer The Journal to an eastern locality. Naturally it would seem as if the strip of country along the Atlantic coast had medical journals in abundance, and that the removal thither of another would act more or less disadvantageously. On this view of the fact, it would appear that the Trustees of The Journal either resolved thoughtlessly, or were acting in disregard of the interests of other journals.

Can a better or more reliable business manager be secured in Washington? Can better or more effective editorial work be secured? In short, is there a single reason for fixing The Journal permanently in Washington? We have not heard of a single reason that counts in favor of The Journal or of the Association. We are informed that such location is desirable because Washington is the Nation's Capital: but the publication of The Journal is a business to be conducted upon business principles, for the attainment of business ends. If there are good business reasons for locating The Journal in Washington, we have yet to learn of them. The fact that Washington is the Capital affords the strongest of reasons why such a business as the conduct of a great medical journal should not be located there; a great commercial centre is the

place for a business that is National in its scope, and Washington is not such a centre. More anon.

N. B.—If we hear any reasons for removing The Journal to Washington, we shall lay them before our readers, that all may be prepared to vote intelligently upon the question.—*The American Lancet*, Jan., 1891.

The minutes of the Board of Trustees of The Journal, published in a late edition, show that an attempt has been made to move the plant to Washington. There is some question as to the advisability of such a proceeding at this time, when in the course of the next two years so many medical men from all over the world will visit Chicago, the place where The Journal was born and nurtured. Admitting that it is in some respects a Chicago journal, the question arises as to whether it would be any better, or have a greater influence or larger circulation if it were a Washington journal instead of what it is at the present time? With all due respect to Dr. Hamilton, it is suggested that his official position should prevent him from entering into any political schemes by which he will reward his friends and punish his enemies.

The time has not yet arrived when the members of the Association can afford to trust the welfare of The Journal in the hands of those who are not directly and personally interested in its progress and permanent success. Attempts have been previously made to corral the members of the Board, with a view to manage the paper to the personal advantage of those who desired to "run it for the money there was in it," but, fortunately, all such efforts have heretofore failed, and it is hoped a like fate will attend this last attempt, although it may have been considered with the best intentions. Let it be understood, once and for all time, that The Journal cannot be bought, merged or hypothecated.—*Philadelphia Medical Summary*, Jan., 1891.

The question of the removal of The Journal from Chicago to Washington City is being agitated. A meeting of the Board of Trustees has already been held to that effect. The final decision has been deferred until the meeting in May, when an expression of opinion from the profession at large upon the subject will be had. We think it folly to ask its removal to Washington, simply because it is the home of the National Government, in order that it may be designated a National Medical Journal. Washington is not, never has been and probably never will be a medical centre, and neither its location nor railroad facilities recommend it.—*Kansas Medical Journal*, Jan., 1891.

Shall the A. M. A. Journal go to Washington? This is the question which the Association will be called upon to answer at its next meeting. The Board of Trustees, at a recent session in Washington, adopted a resolution favoring the change, but not a single "Whereas" precedes the "Resolution." What are the reasons for wanting the change made? Surely they exist in the minds of the Trustees, and as officers of the Association having at heart the best interest of this organization, those reasons should be made public. Can The Journal be published cheaper in Washington? That can hardly be, for Chicago is a great publishing centre. Are the mailing facilities at Washington better? Mr. Wanamaker would hardly admit that they are. Can it be better edited at Washington? That's a "sure enough" question. The Association will be very certain to know something about a prospective editor before it votes upon this matter. In the far Eastern country the Islam prophet of old failed in an attempt to make the mountains skip at his command as kids at play, but perhaps "a greater than he is here." It does look as though the mountain were seriously contemplating a journey in a Pullman palace car to a Mahomet who has bid it come. In all soberness,

Messrs. Trustees, let the Association know why your assembled wisdom deems it best to transfer The Journal to Washington. Let it stay where it now is unless certainly shown that the interests of both the Association and its Journal will be conserved by its removal.—*Medical Herald*, Feb., 1891.

A great controversy is now being carried on regarding the proposed removal of The Journal from its home in Chicago to Washington City. The control of The Journal is in the hands of a Board of Trustees, which has recommended that the change be made. The question will come up at the next meeting in Washington, and there will be a warm discussion, and possibly indefinite results.

The time for an opinion upon this proposition is not arrived, for we are sure that the best arguments for the removal have not as yet been advanced. We fear that the action of the Trustees in referring the matter to the Association is wrong, and will result in harm. The Board was given full power to act; by its act The Journal was located in Chicago, and by its authority it could remain or be removed.

As it is now, there is a pretty war on hand, and it will grow fiercer and hotter as the time for the meeting draws nigh. Even if a conclusion be reached at the next meeting, it may be undone at any succeeding one. We hope a motion will prevail to refer the question back to the Trustees. They are abundantly able to settle the matter—in fact, are elected to carry just such responsibility. We will have something to say about the arguments for and against removal further along.—*St. Louis Clinique*, Feb., 1891.

At the last meeting of the Trustees of The Journal of the American Medical Association, it was resolved to move The Journal from Chicago to Washington. By subsequent resolution, however, it was determined to leave the matter open until a vote could be had by the members at the May meeting. The question is therefore a proper one for agitation and it is well enough to consider the pros and cons relative to a matter of so much importance to so large a number of the medical profession.

The Journal when established was located in Chicago, largely because Chicago influence was dominant in the Association, but chiefly because it was a central point from which proofs could be readily sent to writers and as readily returned. This convenience has been experienced by contributors to The Journal, the vast majority of whom reside in the great interior valley of our broad country. Since the location of the official organ of the Association at Chicago, type and other fixtures have been purchased, and the periodical under conservative management has become one of the most influential in the country. But now right on the heels of this success comes an effort to take The Journal from its central and convenient location and publish it in a provincial city on one side of the continent.

The question is at once asked why? Is it because there are no longer printing presses in Chicago? Is it because the paper market in that city has become exhausted? Is it because the mailing facilities in that metropolis are inadequate? Is it because there are no men of brains to be found either in that great and growing medical center, or who can be induced to take up their residence there to assume editorial charge of one of the leading medical journals of the country? These are the only reasons that are entitled to consideration relative to changing the location of a great journal and yet a knowledge of the facts in the present instance condemn them as absurd to the verge of idiocy.

The only reason so far given by the promoters of the move is that Washington is the Capital of the country. Well what of it? Are there better presses, more paper,

fastier mailing facilities or more brilliant intellects in Washington than in Chicago? The Capital is merely a political center and as such is inimical to the highest development of science or literature. We do not want the politics of the Capital engrafted upon the journalistic interests of the American Medical Association.

Gentlemen of the West and South, be at Washington on May 5th and vote upon this question.—*Cincinnati Medical Journal*, Feb. 15, 1891.

MISCELLANY.

THE BIG FOUR AND THE ANNUAL MEETING OF THE ASSOCIATION.—To members of the American Medical Association who contemplate attending the annual Meeting at Washington, D. C., May 5th to 8th, a few words in regard to the best means of reaching Washington will no doubt prove acceptable. The recognized line from Chicago is the Popular Big Four Route in connection with the Scenic Chesapeake & Ohio Ry., from Cincinnati running via White Sulphur Springs, through the beautiful mountain regions of the Virginias, over its own tracks into the City of Washington.

Passengers via this popular line have the choice of two elegant trains, starting from Lake Street Depot, Chicago, —the morning train equipped with elegant parlor cars, cafe dining car and luxurious coaches, makes connection at Cincinnati with the Famous "Fast Flying Virginian" via the C. & O. Route, assuring passengers of first class service, including Dining Cars, for the entire trip. The evening train from Chicago is equipped with private compartment buffet sleeping car, standard Wagner palace sleeping car and elegant reclining chair car and makes connection with the "Washington Fast Line" via the Chesapeake & Ohio Ry., affording a day-light ride through the beautiful Ohio Valley, and across the scenic Blue Ridge Mountains into the Capital.

These trains are vested throughout, provided with an unequaled dining car service and afford every comfort and convenience of modern railroading. For tickets and full information call on or address J. C. Tucker, General Northern Agent 121 Randolph St., Chicago, Ill., D. B. Martin General Pass. Agent Big Four Route Cincinnati, O.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 21, 1891, to March 27, 1891.

Major Henry R. Tilton, Surgeon U. S. A., is hereby granted leave of absence for one month, on surgeon's certificate of disability. Par. 5, S. O. 56, Hdqrs. Div. Atlantic, March 21, 1891.

Major Passmore Middleton, Surgeon, is relieved from duty at St. Francis Bks., Fla., and will proceed to Newport Bks., Ky., and await further orders. The travel enjoined is necessary for the public service. By direction of the Acting Secretary of War. Par. 8, S. O. 62, A. G. O., Washington, March 19, 1891.

Major John H. Barthol, Surgeon, now on duty at Plattsburgh Bks., N. Y., will proceed to Fort Wayne, Mich., and report in person to the commanding officer of that post for temporary duty. By direction of the Acting Secretary of War. Par. 7, S. O. 64, A. G. O., Washington, March 2, 1891.

Capt. Henry Johnson, Medical Storekeeper, retirement from active service this date, under the provisions of the Act of Congress approved June 30, 1882, is announced. By direction of the Acting Secretary of War. Par. 5, S. O. 66, A. G. O., Hdqrs. of the Army, Washington, March 24, 1891.

Capt. Robert J. Gibson, Asst. Surgeon, leave of absence granted in S. O. 232, A. G. O., October 3, 1890, from this office, is extended one month. By direction of the Acting Secretary of War. Par. 10, S. O. 65, A. G. O., Washington, March 23, 1891.

First Lieut. Eugene L. Swift, Asst. Surgeon, now on duty at Ft. Thomas, Ariz., will report by letter to the commanding officer, Ft. Grant, Ariz., for duty at that station or Ft. Thomas, Ariz., as the commanding officer may direct. By direction of the Acting Secretary of War. Par. 7, S. O. 66, A. G. O., Washington, March 24, 1891.

Lieut. Col. Charles R. Greenleaf, Asst. Medical Purveyor, will proceed to New York City on public business, and thence to Boston, Mass., to represent the Army Medical Department at the American Association for Physical Education, and upon the completion of the duties contemplated, will return to his station in this city. By direction of the Acting Secretary of War. Par. 3, S. O. 67, A. G. O., Washington, March 25, 1891.

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ADDRESSES.

THE RELATION OF BACTERIA TO
PRACTICAL SURGERY.

*The Address in Surgery of the Medical Society of the State of
Pennsylvania, Pittsburgh, June 11, 1890.*

BY JOHN B. ROBERTS, M.D.,

PROFESSOR OF SURGERY IN THE WOMAN'S MEDICAL COLLEGE OF
PENNSYLVANIA, PROFESSOR OF ANATOMY AND SURGERY
IN THE PHILADELPHIA POLYCLINIC.

The revolution which has occurred in practical surgery since the discovery of the relation of microorganisms to the complications occurring in wounds has caused me to take up this subject for discussion. Although many of my hearers are familiar with the germ theory of disease, it is possible that it may interest some to have put before them, in a short address, a few points in bacteriology, which are of value to the practical surgeon.

It must be remembered that groups of symptoms which were formerly classed under the heads of "inflammatory fever," "symptomatic fever," "traumatic fever," "hectic fever," and similar terms, varying in name with the surgeon using them, or with the location of the disease, are now known to be due to the invasion of the wound by microscopic plants. These bacteria, after entering the blood current at the wound, multiply with such prodigious rapidity that the whole system gives evidence of their existence. Suppuration of wounds is undoubtedly due to these organisms, as is tubercular disease, whether of a surgical or medical character. Tetanus, erysipelas and many other surgical conditions have been almost proved to be the result of infection by similar microscopic plants, which, though acting in the same way, have various forms and life-histories.

A distinction must be made between the "yeast plants," one of which produces thrush, and the "mould plants," the existence of which as parasites in the skin gives rise to certain cutaneous diseases. These two classes of vegetable parasites are foreign to the present topic, which is surgery; and I shall, therefore, confine my remarks to that group of vegetable parasites to which the term bacteria has been given. These are the microorganisms whose actions and methods of growth particularly concern the surgeon. The individual

plants are so minute that it takes in the neighborhood of ten or fifteen hundred of them grouped together to cover a spot as large as the full stop or period used in punctuating an ordinary newspaper. This rough estimate applies to the globular or egg-shaped bacteria to which is given the name "coccus" (plural cocci). The cane, or rod-shaped bacteria are rather larger plants. Fifteen hundred of these placed end to end would reach across the head of a pin. Because of the resemblance of these latter to a walking stick they have been termed bacillus (plural bacilli).

The bacteria most interesting to the surgeon belong to the cocci and the bacilli. There are other forms which bacteriologists have dubbed with similar descriptive names, but they are more interesting to the physician than to the surgeon. Many microorganisms, whether cocci, bacilli, or of other shapes, are harmless; hence they are called non-pathogenic, to distinguish them from the disease-producing, or pathogenic germs.

As many trees have the same shape and a similar method of growing, but bear different fruit;—in the one case edible, and in the other poisonous—so, too, bacteria may look alike to the microscopist's eye, and grow much in the same way, but one will cause no disease, while the other will produce serious disease, such, perhaps, as tuberculosis of the lungs or brain.

Many scores of bacteria have been, by patient study, differentiated from their fellows and given distinctive names. Their nomenclature corresponds in classification and arrangement with the nomenclature adopted in different departments of botany. Thus, we have the pus-causing chain coccus (streptococcus pyogenes), so called because it is globular in shape; because it grows with the individual plants attached to each other, or arranged in a row like a chain of beads upon a string; and because it produces pus. In a similar way we have the pus-causing grape-coccus of a golden color (staphylococcus pyogenes aureus). It produces pus, grows with the individual plants arranged somewhat after the manner of a bunch of grapes, and when millions of them are collected together the mass has a golden yellow hue. Again, we have the bacillus tuberculosis; the rod-shaped plant which is known to cause tuberculosis of the lungs, joints, brain, etc.

It is hardly astonishing that these fruitful sources of disease have so long remained undetected, when their microscopic size is borne in mind. That some of them do cause disease is indisputable, since bacteriologists have, by their watchful and careful methods, separated a single plant from its surroundings and congeners, planted it free from all contamination and observed it produce an infinitesimal brood of its own kind. Animals and patients inoculated with the plants thus cultivated have rapidly become subjects of the special disease which the particular plant was supposed to produce.

The difficulty of such investigations becomes apparent when it is remembered that under the microscope many of these forms of vegetable life are identical in appearance, and it is only by observing their growth, when in proper soil, that they can be distinguished from each other. In certain cases it is quite difficult to distinguish them by their physical appearances produced during their growth. In such instances it is only after an animal has been inoculated with them that the individual parasite can be accurately recognized and called by name. It is known by the results it is capable of producing.

The various forms of bacteria are recognized, as I have said, by their method of growth, and by their shape. Another means of recognition is their individual peculiarity of taking certain dyes so that special plants can be recognized, under the microscope, by the color given to them, which they refuse to give up when treated with chemical substances which remove the stains from, or bleach, all the other tissues which at first have been similarly stained.

The similarity between bacteria and the ordinary plants with which florists are familiar is indeed remarkable. Bacteria grow in animal and other albuminous fluids, as a soil, but it is just as essential for them to have a suitable soil as it is for the corn or wheat that the farmer plants in his field. By altering the character of the albuminous fluid in which the microorganism finds its subsistence, these small plants can be given a vigorous growth or may be actually starved to death. The farmer knows that it is impossible for him to grow the same crop year after year in the same field, and he is, therefore, compelled to rotate his crops. So it is with these microscopic plants which we are considering. After a time the culture fluid or soil becomes so exhausted of its needed constituents by the immense number of plants living in it that it is unfit for their life and development. Then this particular plant will no longer thrive, but some other form of bacterium may find in it the properties required for functional activity, and grow vigorously. It is probable that exhaustion or absence of proper soil is an important agent in protecting man from sickness due to infection from bacteria. The ever

present bacteria often gains access to man's blood through external wounds, or through the lungs and digestive tracts; but unless a soil suited for their development is found in his fluids, the plants will not grow. If they do not grow and increase in numbers they can do little harm.

Again, there are certain bacteria which are so antagonistic to each other that it is impossible to make them grow in company, or to co-exist in the blood of the same individual. For example, an animal inoculated with erysipelas germs cannot be successfully inoculated immediately afterward with the germs of malignant pustule. Such antagonism is illustrated by the impossibility of having a good crop of grain in a field overrun with daisies. On the other hand, however, there are some microorganisms which flourish luxuriantly when planted together in the same fluid, somewhat after the manner of pumpkins and Indian corn growing between the same fence rails. Others seem unwilling to grow alone, and only flourish when planted along with some other germs. It is very evident, therefore, that bacteriology is a branch of botany, and that Nature shows the same tendencies in these minute plants as it does in the larger vegetable world visible to our unaided eyes.

As the horticulturist is able to alter the character of his plants by changing the circumstances under which they live, so can the bacteriologist change the vital processes and activities of bacteria by chemical and other manipulations of the culture substances in which these organisms grow. The power of bacteria to cause pathological changes thus may be weakened and attenuated; in other words, their functional power for evil is taken from them by alterations in the soil. The pathogenic, or disease-producing power, may be increased by similar, though not identical, alterations. The rapidity of their multiplication may be accelerated, or they may be compelled to lie dormant and inactive for a time; and on the other hand, by exhausting the constituents of the soil upon which they depend for life, they may be killed.

It is a most curious fact also that it is possible, by selecting and cultivating only the lighter-colored specimens of a certain purple bacterium, for the bacteriologist to finally obtain a plant which is nearly white, but which has the essential characteristics of the original purple fungus. In this we see the same power which the florist has to alter the color of the petals of his flowers by various methods of selective breeding.

The destruction of bacteria by means of heat and antiseptics is the essence of modern surgery. It is, then, by preventing access of these parasitic plants to the human organism (aseptic surgery), or the destruction of them by chemical agents and heat (antiseptic surgery), that we are enabled to invade, by operative attacks, regions of the body which a few years ago were sacred.

When the disease-producing bacteria gain access to the tissues and blood of human and other animals by means of wounds, or through an inflamed pulmonary or alimentary mucous membrane, they produce pathological effects provided there is not sufficient resistance and health power in the animal's tissues to successfully antagonize the deleterious influence of the invading parasitic fungus. It is the rapid multiplication of the germs, which furnishes a continuous irritation, that enables them to have such a disastrous effect upon the tissues of the animal. If the tissues had only the original dose of microbes to deal with, the warfare between health and disease would be less uncertain in outcome. Victory would usually be on the side of the tissues and health.

The immediate cause of the pathogenic influence is probably the chemical excretions which are given out by these microscopic germs. All plants and animals require a certain number of substances to be taken into their organisms for preservation of their vital activities. After these substances have been utilized there occurs an excretion of other chemical products. It is probably the excretions from the many millions of bacteria circulating in the blood which give rise to the disease characteristic of the fungus with which the animal has been infected. The condition called *sapremia*, or *septic intoxication*, for example, is undoubtedly due to the entrance of the excretory products (*ptomaines*) of putrefaction-bacteria into the circulation. This can be proved by injecting into an animal a small portion of these products obtained from cultures of the germs of putrefaction. Characteristic symptoms will at once be exhibited.

Septicæmia is a similar condition due to the presence of the putrefactive organisms themselves, and hence of their products or *ptomaines* also in the blood. The rapidity of their multiplication in this albuminous soil, and the great amount of excretion from the numerous fungi, makes the condition more serious than *sapremia*. Clinically, the two conditions occur together.

The rapidity with which symptoms may arise after inoculation of small wounds with a very few germs will be apparent when it is stated that one parasitic plant of this kind may, by its rapidity of multiplication, give rise to fifteen or sixteen million individuals within twenty-four hours. The enormous increase which takes place within three or four days is almost incalculable. It has been estimated that a certain bacillus only about 1-1000 of an inch in length could, under favorable conditions, develop a brood of progeny in less than four days which would make a mass of fungi sufficient to fill all the oceans of the world if they all had a depth of one mile.

Bacteria are present everywhere. They exist in the water, earth, air, and within our respira-

tory and digestive tracts. Our skin is covered with millions of them, as is every article about us. They can circulate in the lymph and blood, and reach every tissue and part of our organisms by passing through the walls of the capillaries. Fortunately, they require certain conditions of temperature, moisture, air and organic food for existence, and for the preservation of their vital activities.

If their surroundings are too hot, too cold, or too dry, or if they are not supplied with a proper quantity and quality of food from the soil in which they are living, the bacterium becomes inactive, until the surrounding circumstances change, or die absolutely. The spores which finally become full-fledged bacteria, are able to stand a more unfavorable environment than the adult bacteria. Many spores and adults, however, perish. Each kind of bacterium requires its own special environment to permit it to grow and flourish. The frequency with which an unfavorable combination of circumstances occurs limits greatly the disease-producing power of the pathogenic bacteria.

Many bacteria, moreover, are harmless and do not produce disease even when present in the blood and tissues. Besides this the white blood cells are perpetually waging war against the bacteria in our bodies. They take the bacteria into their interiors and render them harmless by eating them up, so to speak; and they crowd together and form a wall of white blood cells around the place where the bacteria entered the tissues, thus forming a barrier to cut off the blood supply to the germs and perhaps to prevent them from entering the general blood current.

The war between the white blood cells and bacteria is a bitter one. Many bacteria are killed; but, on the other hand, the life of many blood cells is sacrificed by the bacteria poisoning them with *ptomaines*. The tissue cells, if healthy, offer great resistance to the attacks of the army of bacteria. Hence, if the white cells are vigorous and abundant at the site of the battle, defeat may come to the bacteria, and the patient suffers nothing from the attempt of these vegetable parasites to harm him. If, on the other hand, the tissues have a low resistive power, because of the general debility of the patient, or of a local debility of the tissues themselves, and the white cells be weakened and not abundant, the bacteria will gain the victory, get access to the general blood current and invade every portion of the animal's body. Thus, a general, or a local, disease, will be caused; varying with the species of bacteria with which the patient has been infected, and the degree of resistance on the part of the tissues.

From what has been stated, it must be evident that the bacterial origin of disease depends upon the presence of a disease-producing fungus and a diminution of the normal or healthy tissue-re-

sistance to bacterial invasion. If there is no fungus present, the disease caused by such fungus cannot develop. If the fungus be present, and the normal or health tissue-resistance be *undiminished*, it is probable that disease will not occur. As soon, however, as over-work, injury of a mechanical kind, or any other cause diminishes the local or the general resistance of the tissues and individual, the bacteria have the upper hand, and are able to produce their malign effect.

Many conditions favor the bacterial attack. The patient's tissues may have an inherited peculiarity, which renders it easy for the bacteria to find a good soil for development; an old injury or inflammation may render the tissues less resistant than usual; the point at which inoculation has occurred may have certain anatomical peculiarities which make it a good place in which bacteria may multiply; the blood may have undergone certain chemical changes which render it better soil than usual for the rapid growth of these parasitic plants.

The number of bacteria originally present makes a difference also. It is readily understood that the tissues and white blood cells would find it more difficult to repel the invasion of an army of a million microbes, than the attack of a squad of ten similar fungi. I have said that the experimenter can weaken and augment the virulence of bacteria by manipulating their surroundings in the laboratory. It is probable that such a change occurs in nature. If so, some bacteria are more virulent than others of the same species; some less virulent. A few, of the less virulent disposition, would be more readily killed by the white cells and tissues than would a larger number of more virulent ones. At other times the danger from microbic infection is greater because there are two species introduced at the same time; and these two multiply more vigorously when together than when separated. They are, in fact, two allied hosts trying to destroy the blood cells and tissues. This occurs, for instance, when the bacteria of putrefaction and the bacteria of suppuration are introduced into the tissues at the same time. The former causes sapræmia and septicæmia, the latter cause suppuration. The bacteria of tuberculosis are said to act more viciously if accompanied by the bacteria of putrefaction. Osteomyelitis is of greater severity, it is believed, if due to a mixed infection with both the white and the golden grape-coccus of suppuration.

I have previously mentioned that the bacteria of malignant pustule are powerless to do harm when the germs of erysipelas are present in the tissues and blood. This is an example of the way in which one species of bacteria may actually aid the white cells, or leucocytes, and the tissues in repelling an invasion of disease-producing microbes.

Having occupied a portion of the time allotted to me in giving a crude and hurried account of the characteristics of bacteria, let me discuss the relations of bacteria to the diseases most frequently met with by the surgeon.

Mechanical irritations produce a very temporary and slight inflammation, which rapidly subsides; because of the tendency of nature to restore the parts to health. Even severe injuries, therefore, will soon become healed and cured, if no germs enter the wound.

Suppuration of operative and accidental wounds was, until recently, supposed to be essential. We now know, however, that wounds will not suppurate if kept perfectly free from one of the dozen forms of bacteria that are known to give rise to the formation of pus.

The doctrine of present surgical pathology is that suppuration will not take place, if pus-forming bacteria are kept out of the wound, which will then heal by first intention without inflammation and without "inflammatory" fever.

In making this statement I am not unaware that there is a certain amount of fever following various severe wounds within twenty-four hours, even when no suppuration occurs. This wound-fever, however, is transitory, not high, and entirely different from the prolonged condition of high temperature formerly observed nearly always after operations and injuries. The occurrence of this inflammatory, traumatic, surgical, or symptomatic fever, as it was formerly called, means that the patient has been subjected to the poisonous influence of putrefactive or suppurative germs.

We now know why it is that certain cases of suppuration are not circumscribed but diffused, so that the pus dissects up the fascias and muscles and destroys with great rapidity the cellular tissue. This form of suppuration is due to a particular form of bacteria called the pus forming "chain-coccus." Circumscribed abscesses, however, are due to one or more of the other pus-causing microorganisms.

How much more intelligent is this explanation than the old one that diffuse abscesses depended upon some curious characteristic of the patient. It is a satisfaction to know that the two forms of abscess differ because they are the result of inoculation with different germs. It is practically a fact that wherever there is found a diffuse abscess there will be discovered the streptococcus pyogenes, which is the name of the chain-coccus above mentioned.

So also is it easy now to understand the formation of what the old surgeons called "cold abscess," and to account for the difference in appearance of its puriform secretion from the pus of acute abscess. Careful search in the fluid coming from such cold abscesses reveals the presence of the bacillus of tuberculosis and proves that a

cold abscess is not a true abscess, but a local lesion of tubercular infection. Easy is it now to understand the similarity between the "cold abscess" of the cervical region and the "cold abscess" of the lung in a phthisical patient. Both of them are, in fact, simply the result of invasion of the tissues with the ubiquitous tubercle bacillus; and are not due to pus-forming bacteria.

Formerly it was common to speak of the scrofulous diathesis, and attempts were made to describe the characteristic appearance of the skin and hair pertaining to persons supposed to be of scrofulous tendencies. The attempt was unsuccessful and unsatisfactory. The reason is now clear because it is known that the brunette or blonde, old or young, may become infected with the tubercle bacillus. Since the condition depends upon whether one or other becomes infected with the ever present bacillus of tubercle, it is evident that there can be no distinctive diathesis.

It is more than probable that the cutaneous disease so long described as lupus vulgaris is simply a tubercular condition of the skin, and not a special disease of unknown causation.

The metastatic abscesses of pyæmia are clearly explained when the surgeon remembers that they are simply due to a softened blood clot, containing pus-forming germs, being carried through the circulation and lodged in some of the small capillaries.

A patient suffering with numerous boils upon his skin has often been a puzzle to his physician, who has in vain attempted to find some cause for the trouble in his general health alone. Had he known that every boil owed its origin to pus bacteria which had infected a sweat gland or hair follicle, the treatment would probably have been more efficacious. The suppuration is due to pus germs, either lodged upon the surface of the skin from the exterior, or deposited from the current of blood by which they have been carried to the spot.

I have not taken time to go into a discussion of the methods by which the relationship of micro organisms to surgical affections has been established; but the absolute necessity for every surgeon to be fully alive to the inestimable value of aseptic and antiseptic surgery had led me to make the foregoing statements as a sort of résumé of the relation of the germ theory of disease to surgical practice. It is clearly the duty of every man who attempts to practice surgery to prevent, by every means in his power, the access of germs, whether of suppuration, putrefaction, erysipelas, tubercle, tetanus or any other disease to the wounds or body of a patient. This as we all know, can be done by absolute bacteriological cleanliness. It is best, however, not to rely solely upon absolute cleanliness, which is almost unattainable; but to secure further protection by the use of antiseptic solutions. I am fully of the opin-

ion that chemical antiseptics would be needless, if absolute freedom from germs was easily obtained. When I know that even such an enthusiast as I, myself, is continually liable to forget or neglect some step in this direction, I feel that the additional security of chemical antiseptics is of great value. It is difficult to convince the majority of physicians, and even ourselves, that to touch during an operation a finger to a door knob, to an assistant's clothing, or to one's own body may be to vitiate the entire operation by introducing one or two microbic germs into the wound.

An illustration of how carefully the various steps of an operation should be guarded is afforded by the appended rules, which I have adopted at the Woman's Hospital of Philadelphia for the guidance of assistants and nurses. If such rules were taught every medical student and every physician entering practice as earnestly as the paragraphs of the catechism are taught the Sunday School pupil (and they certainly ought to be so taught) the occurrence of suppuration, hectic fever, septicæmia, pyæmia and surgical erysipelas would be practically unknown. Death then would seldom occur after surgical operations except from hæmorrhage, shock or exhaustion.

With this feeble plea, Mr. President and Members of the Society, I hope to create a realization of the necessity for knowledge and interest in the direction of bacteriology, for this is the foundation of Modern Surgery. There is, unfortunately, a good deal of abdominal work done under the name of antiseptic and aseptic surgery, because the simplest facts of bacteriology are unknown to the operator. I have taken the liberty of bringing here a number of culture tubes containing beautiful specimens of some of the more common and interesting bacteria. The slimy masses seen on the surface of the jelly, contained in the tubes, are many millions of individual plants, which have aggregated themselves in various forms, as they have been developed as the progeny of the parent cells planted in the jelly as a nutrient medium or soil.

RULES TO BE OBSERVED IN OPERATIONS IN DR. ROBERTS' SURGICAL CLINIC OF THE WOMAN'S HOSPITAL OF PHILADELPHIA.

After wounds or operations, high temperature usually, and suppuration always, is due to blood poisoning, which is caused by infection with vegetable parasites called bacteria. These parasites ordinarily gain access to the wound from the skin of the patient, the finger nails or hand of the operator or his assistants, the ligatures, sutures or dressings.

Suppuration and high temperature should not occur after operation wounds, if suppuration has not existed previously. Bacteria exists almost everywhere as invisible particles in the dust; hence, everything that touches or comes into even momentary contact with the wound must be germ-free; technically called "sterile." A sterilized condition of the operator, the assistant, the wound, instruments, etc., is obtained by removing all bacteria by

means of absolute surgical cleanliness (asepsis,) and by the use of those chemical agents which destroy the bacteria not removed by cleanliness itself (antisepsis). Surgical cleanliness differs from the housewife's idea of cleanliness in that its details seem frivolous, because it aims at the removal of microscopic particles. Stains such as housewives abhor, if germ-free, are not objected to in surgery. The hands and arms, and especially the finger nails of the surgeon and assistants and nurses, should be well scrubbed with hot water and soap by means of a nail brush immediately before the operation. The patient's body about the site of the operation should be similarly scrubbed with a brush and cleanly shaven. Subsequently the hands of the operator, assistants and nurses, and the field of operation, should be immersed in, or thoroughly washed with, corrosive sublimate solution (1-1000, or 1-2000). Finger rings, bracelets, bangles, cuffs worn by the surgeon, assistants or nurses, must be removed before the cleansing is begun, and the clothing covered by a clean white apron large enough to extend from neck to ankles and provided with sleeves.

The instruments should be similarly scrubbed with hot water and soap and all particles of blood and pus from any previous operation removed from the joints. After this they should be immersed for at least fifteen minutes in a solution of betanaphthol (1-2500), which must be sufficiently deep to cover every portion of the instruments. After cleansing the instruments with soap and water, baking in a temperature a little above the boiling point is the best sterilizer. During the operation the sterilized instruments should be kept in a betanaphthol solution and returned to it when the operator is not using them.

Sponges should be kept in a betanaphthol solution (or a corrosive sublimate solution) during the operation. After the blood from the wound has been sponged away, they should be put in another basin containing an antiseptic solution and must be thoroughly cleansed and sterilized anew before being used again. The antiseptic sutures and ligatures should be similarly soaked in betanaphthol solution during the progress of the operation.

No one should touch the wound but the operator and his first assistant. No one should touch the sponges but the operator, his first assistant, and the nurse having charge of them. No one should touch the already prepared ligatures or instruments except the surgeon and his first and second assistant. None but those assigned to the work are expected to handle instruments, sponges, dressings, etc., during the operation.

When any one taking part in the operation touches an object not sterilized, such as a table, a tray, or the ether towel, he should not be allowed to touch the instruments, the dressings, or the ligatures until his hands have been again sterilized. It is important that the hands of the surgeon, his assistants and nurses should not touch any part of his own or the patient's body, because infection may be carried to the wound. Rubbing the beard or head, or wiping the nose, requires immediate disinfection of the hands to be practiced.

The trailing ends of ligatures and sutures should never be allowed to touch an assistant's or surgeon's dress, or to drag upon the operating table because contact may occasionally, though not always, pick up bacteria, which may cause suppuration in the wound.

Instruments that fall upon the floor should not be again used until thoroughly disinfected. The clothing of the patient in the vicinity of the part to be operated upon, and the blankets and sheets used to keep him warm should be covered with dry sublimate towels, and all dressings should be kept safe from infection by being stored in glass jars or wrapped in dry sublimate towels.

¹ In abdominal operations it is usually not necessary, and may be unwise, to use the ordinary chemical antiseptic solutions because of their irritant qualities. When used in the abdominal and pelvic cavities such solutions must be very weak; ordinarily, water ren-

ORIGINAL ARTICLES.

THE PREVENTION OF THE SHORT LEG OF HIP DISEASE.

Read before the American Orthopaedic Association, at Boston, Mass., September 18, 1889.

BY A. B. JUDSON, M.D.,

ORTHOPÆDIC SURGEON TO THE OUT-PATIENT DEPARTMENT OF THE NEW YORK HOSPITAL.

A short leg is what is commonly dreaded as the result of hip disease. The shortening is not, however, as a rule, due to the shortening of the bones. What produces the short leg of hip disease is an immobilization of the joint which prevents the reduction of flexion of the thigh, or adduction of the thigh; or which, as too often happens, prevents the reduction of both flexion and adduction. If, for instance, the patient stands with the thigh considerably adducted, we will say 22.5 degrees, and fixed at that angle, the limb cannot be made vertical without elevation of that side of the pelvis, with of course a drawing upward of the heel and an inevitable appearance of shortening; and if the thigh is flexed, for example 45 degrees, and fixed at that angle, the limb cannot be made vertical without an inclination forward, which gives an appearance of shortening to the whole figure. Thus we see, that when the patient stands, adduction means "apparent shortening." The same is true of flexion. And when we direct our attention to the deformity which attends the patient when he walks, we see that the affected side dips at every step, and that when the limb comes into a vertical position, as it does at the critical moment when it is called upon to support the weight of the body, the pelvis rocks forward or laterally, or it may be in both directions at every step; and we have the characteristic gait of hip disease.

If, on the other hand, the thigh is immovable on the pelvis in a good position, neither adducted nor flexed, when the patient stands, the limb is vertical and the pelvis is level in all directions; and when the patient walks, the pelvis without any lateral tilting, rocks to and fro with a moderate motion, enough to allow the limb to swing backward and forward, by virtue of the mobility of the vertebral joints and the hip joint of the unaffected side, in the arc appropriate for locomotion in a comparatively easy and graceful way. Walking thus performed, is attended by no dipping of the affected side, and with no shortening except what may come from shortening of the bones or "real shortening."

How to secure this good position of the limb in a hip joint ankylosed by disease, is a question of great importance, second only to the question,

dered sterile by boiling just before the operation, is the proper fluid for sponges, irrigation and instruments. The precautions as to cleansing the area of operations externally, and as to instruments, must be the same as in other operative procedures.

How can we promote resolution of the inflammation? I believe a good ultimate position of the limb can be obtained by inducing the patient to use the affected limb as much as possible in walking, of course protected from concussion by the hip crutch.

I do not mean to say that traction is useless as an agent for overcoming deformity; it will diminish extreme deformity with absolute certainty whether applied with the weight and pulley or rack and pinion; but it is less effective when the deformity is only moderate or slight. Applied, for instance, to an extreme case of flexion, it will produce extension. Indeed, traction, a few years ago, was universally called extension. But in proportion as the flexion is reduced, the power of traction to further reduce the deformity rapidly diminishes, because it is evident that a given power loses its ability to overcome resistance at the angle, as the angle becomes more obtuse. If, for instance, we would straighten a crooked nail we may, if the nail is very much bent, say at an angle of 90° , reduce the angle by traction: but as the angle becomes more and more obtuse, the power of traction to accomplish our object lessens, and finally disappears.

This consideration is one of those which lead me to discredit traction as a means of reducing deformity. Another, is the fact, that although traction may in skilful hands overcome even slight degrees of deformity, it is only by assiduous attention and a nice adjustment of the direction in which the force is applied that this may be done. The correct position of the limb, thus brought about, is maintained while the patient is under special supervision and restraint; but when they are relaxed, the causes, whatever they may be, which produce the deviation, resume their influence. And this leads to the inquiry, What are the causes which produce the customary deformity of hip disease; what flexes and adducts the limb?

This question is quite distinct from the question, What prevents motion? We know that motion is prevented, first, by reflex contraction of the muscles, and afterward by ankylosis; but what determines the position of the limb through the months and years when muscular action holds it fixed; what forbids a good position and inclines toward adduction and flexion? If we can discover the forces which cause the limb to err, we may perhaps remove or thwart them. It has been said that effusion determines the direction of the limb, which takes that position in which the capsule can best accommodate the volume of fluid. Migration of the acetabulum and dislocation of the femoral head, have also been cited as controlling forces. Abduction has been thought to depend on spasm of the gluteal muscles followed by their paralysis, which allows their opposing muscles to produce adduction. Atrophy and attrition of the

head and acetabulum have been thought to have some effect in deciding the character of the deformity. It has also been said that the limb takes that position in which an imaginary painful spot or area on the head of the femur is furthest removed from the depth of the acetabulum, where it would receive pressure from muscular action.

In some stages, and in certain cases, each of these modes of accounting for the chosen position of the limb may, or may not, be correct; but what we want, is to recognize some cause, general in its application, and independent of such pathological conditions as have been cited, which are more or less transient and difficult to demonstrate in bone, muscle, nerve, or effused fluid. A more widely applicable theory is that which says the position is generally the attitude of minimum suffering; but pain is not always present, indeed, as a rule, it is present but a small portion of the time during which the limb is held in its selected position. Can we not find a cause which is in force in all the periods of the affection, the painless as well as the painful?

It has been said, and wisely, that the position is due to efforts made by the child and nature to secure fixation, and that the position assumed is that in which immobilization by nature reaches its maximum. This is a good explanation, and applicable to every case in all of its stages; but I do not think these words quite cover the whole ground. I would add to them a line recognizing the influence exerted on the direction of the limb by the patient's habitual attitudes and positions.

Before accepting this addition, however, it will be necessary for us to accustom ourselves to recognize the fact that the fixation or immobilization created by reflex muscular action is very far from being absolute immobility. This view is in accord with the ordinary events of practice. Cases in which fixedness is inconstant are matters of daily observation. For instance, a joint at the first moment of examination is without motion, but a few moments of delay and skilful manipulation reveal slight motion. Or, at one examination, the limb is in a position, adducted we will say, at a certain angle, which is made a matter of record, and at the next examination, a few hours or days later, the angle is widely increased or diminished. Or a patient with marked deformity is put to bed with a weight and pulley, or is treated by traction with the hip-splint, and the deformity is greatly mitigated in a few hours. In all these cases, reflex muscular action is in force, and yet it does not prohibit changes in the direction of the limb. The condition resembles that found in patients affected with a certain kind of paralysis, whose joints have been compared to a leaden pipe which retains its shape with a very positive degree of fixedness, but which can be bent by the application of a suitable degree of force.

In view of this mobility of the joint, fixed by reflex muscular action, I believe that the position assumed by the limb is determined by the patient's efforts, both voluntary and reflex, to place the limb where its fixation will be liable to the least disturbance, and where it will afford him the most convenience in his ordinary attitudes and movements.

Before considering how to avert deformity it is in order to review the typical positions of the limb in hip disease. They seem to be three in number, and arranged chronologically as follows: 1. Abduction, which is produced early in the disease, when the patient seeks to favor the limb when he stands by putting his weight on the sound limb. He assumes the attitude which follows the military order, "at rest," in which the limb is abducted with a descent of the pelvis on that side and apparent lengthening. Later in the progress of the disease, we have, 2. Adduction and flexion, caused by the patient's efforts to withdraw the affected limb from undue contact with the ground, and to make the disabled member as little an impediment as possible, while the chief work of progression is done by the sound limb. The natural rhythm of the gait is broken, the sound foot being on the ground longer than the other, and the affected limb is drawn up out of the way, when the foot is raised from the ground, by an elevation of the pelvis on that side, with of course, adduction and flexion of the thigh and apparent shortening. Finally, in the neglected and bed-ridden patient, we have, 3. Extreme flexion of the knee and thigh, and extreme adduction of the thigh, obviously the position in which the patient is most comfortable, and the joint most free from disturbance.

These changes, taking place in a typical and uninterrupted case, but illustrate the mobility of the immobilization, so to speak, which characterizes hip disease. In passing, would it not be well to agree to call this form of immobilization, "fixation," a term the status of which is not well established, leaving the longer word to be applied to absolute immobility, such as accompanies ankylosis or bony union after fracture? We could also use the term fixation to indicate what we produce in the hip-joint by traction, which is not absolute immobility, but enough immobilization to aid the natural efforts to keep the joint still and promote resolution, and yet not enough to stand in the way of desirable changes in the position of the limb.

To return to methods of averting deformity, the first position, that of abduction, seldom calls for attention in practice. It would, in some cases, be fortunate if slight abduction could be maintained as the ultimate position, because the apparent lengthening thus secured might happily compensate for whatever real shortening is entailed by the destruction or retarded growth of

the bone. The third position, extreme flexion and adduction, cannot occur with the use of the hip-splint; and as we all, I presume, adhere to treatment by this apparatus, the practical question before us concerns only the prevention of the second position, that in which the thigh is seriously but not extremely flexed and adducted. How can we then, by the use of the hip splint, keep the limb slightly flexed and free from adduction during the many months which usually intervene between the first appearance of deformity and the occurrence of ankylosis?

To recall what we have said about the cause of this deformity, it is the result of the patient's efforts to keep the affected limb off the ground while the well limb does most of the work of progression. If then, we can induce the patient to adopt a gait in which the two limbs are used equally, the cause of the deformity would vanish. The affected limb would then reach for the ground at every step when its turn came, and that would mean a descent of the pelvis and the abolition of adduction, and this would be unattended with violence to the affected joint, because the weight of the body comes on the ischiatric tuberosity resting on the perineal strap, and not on the heel. The first, or an occasional effort of this kind, would not be likely to produce any effect, but if the effort is made habitual or a matter of systematic drill, the adduction of the limb will be gently and gradually corrected, because the patient, consciously or otherwise, will incline the limb towards abduction, so that he can more readily conform to the mode of walking prescribed for him. Undue flexion is subject to similar corrective procedures. And if the naturally rhythmical action of the limbs is restored and becomes habitual, the limb fixed in a good position by reflex muscular action, becomes immobilized by ankylosis, and the patient recovers with the minimum of deformity and locomotor disability.

It may be said, by the way, that the rhythm of the human gait is a subject which has not received the attention to which it is entitled. When natural, it is very simple, the time being divided equally between the two feet; but its very simplicity makes a slight deviation very noticeable, as in the lameness of incipient hip disease in a child, in whom the ordinary motions of the joint are as yet unlimited, and whose lameness is entirely due to the fact that he violates rhythm by spending more time on the sound than on the affected limb. He accents the blow given to the ground by the well foot, which hastens to relieve the affected limb of the weight of the body. It is a point of practical importance that many people who are lame, add to their lameness by neglecting to keep correct time with their feet. Any of us can appear lame by simply giving more time to one foot than to the other, a matter of easy and immediate demonstration; and one who

is really lame can lessen the appearance of being so by simply giving natural rhythm to the action of the feet.

I have been led to the opinions¹ presented in this paper by pondering the question, Why do patients similarly affected, and treated exactly alike, recover with such different degrees of deformity? A young girl, for instance, was in the third stage, in which she nearly lost her life, before treatment was begun. She has recovered with no adduction, and almost no flexion; so that although there is real shortening of nearly two inches, there is very little lameness. I attribute this good position to the fact that her mother was very anxious about her only daughter, and was always with her, so that every step the child took with the hip splint was taken under the necessity of appearing as well as she could. Her steps were equally timed, and the affected limb became ankylosed in a useful position because it had to do, so far as was possible, half the work of locomotion. I also treated a boy who recovered from the disease, in a more moderate although purulent form; but he limps about most awkwardly with 20 degrees of adduction, and 50 degrees of flexion. I explain his bad position by the fact that the mother, one of the best of women, was busy out of the house, every day, and nearly all day, necessarily leaving at home and very much to their own devices, her family of four boys. As the patient was most of the time in excellent general health and very ambitious, he vied with his brothers in all their games, and developed his well limb enormously at the expense of the affected one, which was elevated and adducted to keep it out of the way. In another case the patient, who recovered after long-continued purulent discharges, was a girl endowed with uncommon beauty; and although she was by no means docile, and under very little restraint at home, her vanity led her to try always to appear at the best advantage, and thanks to her careful gait and studied attempts to be graceful, she now walks with very little lameness, with flexion not more than 10 degrees, adduction *nil*, and more than two inches of real shortening.

Another child, whose treatment as a hospital out-patient was finally suspended for neglect, will probably recover with the limb adducted forty-five degrees. A year before her final discharge she was made an in-patient and the deformity was entirely reduced by recumbency and the weight and pulley for seven weeks; but soon after returning to her unfortunate home, where a large family and poverty make even ordinary parental care impossible, the deformity recurred and will doubtless be permanent.

These are the more striking examples selected

from many cases, the study of which has led me to the practical conclusions above expressed. I believe that for years I made a mistake by encouraging patients, protected by the hip splint, to take part in the rough occupations of healthy children. One result was frequent chafing by the perineal straps, which at once destroys correct rhythm, because it is impossible for the patient to divide his weight equally between the well foot on the one side, and the excoriated perineum on the other. It is my practice now to advise moderation in exercise, and especial attention to the manner of walking. I insist on the patient's keeping time in his steps so far as practicable, and lead him to adopt and maintain a proud bearing, keeping his head high and behind the vertical of the centre of gravity. A girl is told to practice deportment before the looking glass, and a boy is advised to organize a juvenile military company, and to take command of it himself. The parents are informed of the importance of encouraging the child to adopt deliberate and graceful movements on all occasions. Since I have changed my practice in this regard, there has been an improvement in results, and I no longer am anxious as to the ultimate position except in those cases in which the patient is intractable, and the domestic management at fault.

It may be well to mention that, as in this method of regulating the position of the limb no account is made of the abductive power of the traction by the hip splint, the perineal strap on the sound side is dispensed with. A single strap is more convenient, and has proved sufficient both as an ischiatic crutch and an agent for making counter traction when the rack and pinion are used.

Summary.—The deformities of hip disease are caused by the patient's efforts to so place the limb that it shall be the least disturbed by, and afford him the most convenience in, his customary attitudes and movements. They are, 1. Abduction; 2. Adduction and flexion; and 3. Extreme adduction and flexion. The second position is practically by far the most important, and is the only one considered in this paper. It is caused by the patient's elevating that side of the pelvis in order to take the limb off the ground, and to keep the affected limb out of the way of the well one, which is on the ground a longer time than the affected limb, and does most of the work of progression. The limb is maintained in the chosen position by reflex muscular contraction, which does not immobilize the joint, but fixes it in such a manner that changes in its position are readily made by the application of gentle but persistent force. It is proposed therefore, to induce the patient, wearing the hip splint, which protects the joint from the violence of walking, to divide the time on the ground equally between the two feet, or rather between the foot of the sound side and

¹ Medical Record, May 21, 1887, p. 586; St. Louis Courier of Medicine, May, 1881, p. 372.

the ischiatic crutch on the affected side, with the expectation that adduction and flexion will be wholly or in part reduced, when the affected limb makes repeated efforts to reach the ground and do its share in locomotion. It is believed that the patient can be induced by precept and drill to adopt this manner of locomotion with the result indicated, a belief which is sustained by the observation that patients led by accident to walk in this way, have recovered with a good position of the limb, and by the results of the adoption in practice of this method of preventing deformity.

4 East 25th St., Madison Square, New York City.

MALIGNANT SMALL-POX; A FORM HITHERTO FATAL.

BY H. RUSSELL, M.D.,

OF SUPERIOR, WIS.

FORMERLY FIRST ASS'T SURGEON 38TH WISCONSIN VOLUNTEERS.

I take the liberty of sending you a report of some cases of above form of small-pox for publication in your valuable journal, in order to expose to the notice of the medical profession a pretty accurate description thereof and its treatment, so that the disease may be diagnosed, if possible, at time of physician's first visit and thereby not permitted to spread, which state of matters occurred after the first case of it, which I saw in vicinity of Westfield, Marquette Co., Wisconsin, in the winter of 1872-73, as, although prior thereto, I had seen many cases of variola and varioloid, I totally failed to discern the least resemblance to last diseases.

My first case was that of a young man, named James Brown, whom I first visited on the 18th of January, 1873, and found in the usual febrile state, precursory to an eruptive disease, with an eruption just appearing on the forehead, which I considered as having been that of scarlatina and announced it as such to his parents, but on the following day the patches were larger than those of scarlatina, and, after having looked over the various exanthema in Aitken's "Practice," I concluded that it was a case of hybrid, described therein, and watched its progress carefully for a few days, when I told them that I did not know the name of the disease that affected their son and advised counsel, which was not obtained, and on the following Monday another physician took charge of the case and diagnosed it as black measles, and as no one was afraid of measles, many visited the patient; hence, in about two weeks thereafter there were many affected by variola, varioloid, and referred to malignant form, and, knowing that the treatment of the first two is simple, and that the character of the pustules, etc., attending them is easily detectible and recognizable by physicians and others who have, previously, seen such cases, I shall, in the follow-

ing, try to describe the appearance of the pustules in said form, its history and the treatment which I found to be of service in my last case, and the only one in which I tried it to any amount.

The pustules, if such they may be termed, in this almost hitherto, nondescript, are not cone-shaped as in variola, and varioloid, but are umbilicated in the centres, of about the size of an ordinary cowpock, are red around the bases and marginally contain a clear fluid which scarcely ever becomes opaque in the least, are mostly confined to the face and extremities, whilst the whole trunk, as far down as the umbilicus, is of a bright red color, and in no case need the attending physician expect such a patient to live more than ten or ten and one-half days after the first appearance of the eruption by using ordinary treatment; such, at least, having been my experience; but in my last case, that of a child named Hannah Smith, aged 9 years, I used tincture of iodine, of which I gave her eight drops in syrup every three hours, and am happy to state that she recovered as readily as if she had merely been affected with measles, whereas her brother and sister had succumbed to the same fatal form, the former not having taken any iodine and been treated by another physician, and the latter only having used it for the period of three or four days prior to death.

In regard to the use of iodine in this form of small-pox, I would say that I got the idea from having seen Prof. Daniel Brainard, of Chicago, successfully use it, hypodermically, on chickens, in the presence of his class for the bite of the rattlesnake, and having used in my former cases, of which I had thirteen during said winter, the different acids, etc., and hydrate of chloral (said to have been used beneficially in the German army for small pox), without the least success, I happened to think of the iodine, and presumed that, as it had acted so well against rattlesnake poison, it might, possibly, have a good effect on small-pox poison, and hence, used it with the above happy result, and it is my opinion, that if I had used it in my former cases I would have saved all of their lives except those of two, who, during the continuance of the disease, were affected by severe intestinal hemorrhage.

In regard to the terrible affection being a new one, I have very good reason to believe that it was in the north of Ireland about seventy-nine years since, and in other parts of Europe about one hundred and sixty-nine years ago, and wonder why a very accurate description of it is not to be found to day in every standard work on the practice of medicine, whereas it is not in any of them unless in one lately published by that talented, time-honored veteran, Prof. N. S. Davis, of Chicago, and is by all odds, more fatal than any and all, of the pustular or exanthematous

diseases. The only cases of it of which I have read a description, were those of two published by him in an issue of *THE JOURNAL* in 1872; his description was very fine, and he described them under the heading of "new diseases," and stated that the first terminated fatally from intestinal hæmorrhage and that he sent the second to the pest-house and did not know the result thereof.

The *New York Sun*, in 1873, published a history of the disease as having been known in the countries referred to above, and at said periods, and I also obtained from an old reliable gentleman, named James Hamilton, formerly of County Down, Ireland, a verbal statement in which he said that he recollected, when a "wee boy" that such a form of small-pox was in the north of Ireland at the same time as stated by the *Sun*, and that all cases of it were invariably fatal. I might also say that in all of my fourteen cases none had been successfully vaccinated and would, therefore, respectfully suggest that stringent, general, State and local enactments be immediately passed for the very charitable and life-saving purpose of carrying out the entire vaccination of all parties not vaccinated as, owing to the small number that were exposed to my first case of malignant small-pox with the result of thirteen having contracted same fatal form and sixty-four been affected with variola and varioloid during the continuance of the disease in said winter, it is my humble opinion that to-day there are not less than ten millions of people in the United States who are liable at any time to contract said fatal form. I might, also, say that in a newspaper in 1873, I read an account of a case of it having occurred in Indiana with the same result as in my first case but whether it was published in a medical journal or not I do not know. That said disease might, with propriety, be called black small-pox, especially in the fatal cases, as in each and all of those which I treated, about the second day prior to death the face and surface generally began to assume a dark color, which continued to become more so gradually until the patient for hours before death appeared almost as black as a negro, and that in each of my fatal cases each doomed patient several hours before death, realized that he or she was about to die and told relatives the manner in which they desired their property to be divided, whilst at the same time I could not yet infer from the character of the pulse nor respiration that my patient was commencing to fail.

NOT A BAD IDEA.—A. Oakey Hall, one of the ex-mayors of New York, in one of his London contributions to the *N. Y. Press*, suggests a statue of Dr. Valentine Mott, to be erected in the Central Park. In the metropolitan city, however, all memorials are of rather tardy growth.

A CASE OF ACUTE INTESTINAL OBSTRUCTION.

Read before the Kings County Medical Association, March 10 1891

BY F. C. RAYNOR, M.D.,
OF BROOKLYN, N. Y.

The following history of a case, which I present for discussion, is of interest, *first*, from the difficulty in making a diagnosis; *secondly*, from the manner in which the obstruction was produced; *thirdly*, from the amount of intestine occluded.

The patient, a colored woman, aged 57, weighing about 175 lbs., single, and a cook by occupation, was taken, two days before I was called, with a sudden and severe pain while ascending the stairs, and it was some little time before she was able to proceed, and then with much difficulty she reached her room. Later she had occasional colicky pains, and vomited some biliary matter. As the bowels had not moved for several days, she was given an enema, which only brought away a few hard fecal masses. For her pain she had been using hot applications. These symptoms continuing, I was sent for. On my first visit, May 21, 1889, I found her complaining as above, with a normal temperature, and a fairly strong pulse of 70. The abdomen was slightly distended, and she had some general soreness, but there was no marked tenderness, and on firm pressure I could detect no sensitive spot. There was no local tumefaction that I could detect, and the external abdominal rings were normal. A careful vaginal and rectal examination was made with a negative result. As she had been subject to what she called "bilious attacks," and further, being under the impression that she had worms, had taken at intervals for years past about all the different vermifuges on the market, it was my opinion she was suffering from some digestive derangement due to improper eating and over-medication. Accordingly, I prescribed a sedative and a diet of milk and Vichy. On the 22d the temperature was normal, pulse 74. The stomach rejected all food taken, and she frequently vomited biliary matter. I continued the sedative and prescribed a cathartic. 23d. No effect from the cathartic, vomiting continues, some hiccup, temperature 97°, pulse 104 and weak. Continued sedative and ordered beef peptonoids and brandy, per rectum. 24th. Patient weaker, vomiting persists, and for the first time is stercoraceous; has passed flatus twice. I then knew I had some form of intestinal obstruction to deal with, but what? At this visit the temperature was 98°, pulse 108. Treatment continued. 25th. Has not vomited in twenty-four hours, and bowels moved freely, passing formed and semi-liquid stools with considerable flatus, slept well during the night, has no pain, and feeling stronger. Temperature 99°, pulse 100. I then was of the

opinion that the obstruction was a volvulus, and that it had been spontaneously relieved, and I felt more hopeful of the case. 26th, General condition somewhat improved; retains food and stimulants. 27th, Still retains food and stimulants, but is weaker. At my evening visit I found her in collapse; she was suffering no pain, was somewhat restless, but her mind was clear. She did not respond to treatment and died at 5 o'clock A.M. on the 28th. A partial autopsy was permitted, and revealed the following: The abdominal walls were two inches thick; no fluid in the peritoneal cavity; peritoneum normal; omentum containing a large amount of fat. On the right side was an incipient hernia, which barely entered the inguinal canal. The gut at a point opposite to the mesentery was so firmly adherent to the margin of the internal ring that it could not be separated. It was twisted on itself, and gangrenous where twisted to the extent of about one square inch. It was not constricted in the ring, and when untwisted, the canal was pervious. The mesentery of the adherent gut formed a constricting band which, extending across to the last lumbar vertebra, passed one inch to the left side of the caput coli, and occluded eleven feet of ileum. The lower half of the large intestine was empty; the upper contained solid feces; stomach and small intestine above the constriction contained fluid; other organs not examined.

Let us review briefly, on the authority of Erichsen, the more usual causes of acute intestinal obstruction with their diagnostic symptoms. 1. We may have internal strangulation from a portion of the gut slipping through an aperture in the mesentery or omentum, forming the so-called internal hernia; or a portion of the intestine may be constricted by becoming entangled round a band passing from one part of the abdominal cavity to another; these bands may be from old peritonitic adhesions, from the vermiform appendix, or a diverticulum from the ileum, the free end of which has become attached to some part of the abdominal wall. 2. Volvulus. 3. Stricture which, gradually closing, becomes suddenly obstructed. 4. Foreign bodies. 5. Inflammatory affections. 6. Intussusception. As there was no history to suggest the third, fourth and fifth causes, we can exclude them and confine ourselves to the first, second and sixth. The symptoms common to all are, severe pain coming on suddenly, followed by early collapse; the pulse is quickened, temperature at first slightly elevated, but soon becoming subnormal; acute abdominal pain fixed in one spot with paroxysmal exacerbations; early severe vomiting, becoming stercoraceous speedily, if the obstruction is in the small intestine, or after several days if the large intestine is occluded; complete constipation; marked abdominal distension.

In thin subjects coils of intestine and peristalsis may be observed through the abdominal walls.

In volvulus the twist is generally in the sigmoid flexure, or the descending colon, and the pain will be referred to that region. Peristalsis is said to be greatest in this variety of obstruction. In intussusception, in addition to the foregoing there is, at the seat of the obstruction, a sausage-shaped tumor, doughy to the feel, which becomes tense on manipulation, owing to the peristaltic contraction of the gut, which is thereby excited. It is tender, and the contractions are accompanied by griping pains. There may be also tenesmus, and a discharge of bloody mucus. The other authorities that I have consulted agree substantially with the above. Comparing this description with my case, which was both a volvulus of the small intestine and a constricting band—for I do not regard the hernia *per se*, a cause of the obstruction—we note an absence of any fixed pain, great abdominal distension, or any local tumefaction or point of tenderness, and although the obstruction was high up in the ileum, stercoraceous vomiting did not occur until the fifth day. The pulse and temperature were also at variance with the description given. But the most misleading symptoms were the passing of feces and flatus, in considerable quantities, on the sixth day, together with an improvement in the general condition, making it appear that the obstruction had been removed. I can only account for it by assuming that the discharge came entirely from the large intestine, and was occasioned by a local peristalsis.

On reviewing the case I am of the opinion that the hernia had been a long time adherent, and occasioned the symptoms which she attributed to worms, and the obstruction was caused by the intestine becoming entangled around the mesenteric band, and which, twisting the gut on itself, produced the volvulus. In regard to the propriety of surgical interference in the treatment of the case, it seems to me that the symptoms at first did not warrant an explorative laparotomy, and when dangerous symptoms did appear they were apparently relieved spontaneously within twenty-four hours, and from the conditions found at the autopsy, it is questionable if an operation could have been successfully performed.

OVARIOTOMY AS A PROPHYLAXIS AND CURE FOR INSANITY.

BY ROBERT A. KITTO, M.D.,
OF RACINE, WIS.

I desire to present to the readers of THE JOURNAL a very interesting case of pseudo-insanity which I recently cured by removing both ovaries with their tubes, bringing about a complete restoration of a mind which had been under a cloud for thirteen years, and which had been pronounced incurable insanity.

Miss Ada M., Racine, Wis., age 25, brunette, full habit, fair health. When she was thirteen years old she had a severe attack of scarlet fever which left her in a very unsound condition of mind. From the age of 14 she began to show signs of unsoundness of mind, which grew rapidly worse until she was 18, when she became so violent and unmanageable that her parents were obliged to apply for a medical commission to examine into her mental condition with a view of sending her to an asylum, which was accordingly done. She was committed to Oshkosh (Wis.) Asylum in 1887. There she remained under regular treatment for a period of eight months, when she was discharged and sent home. She was, however, by no means cured, as she almost immediately began to show signs of a return of her former trouble, and after a space of two years she was again committed to the same asylum for treatment, where she remained for a space of one year; she was again returned home, but remained in a semi-sane condition, being not violent, but so much deranged that it was found necessary to confine her to the house. She would often escape into the street in almost a nude condition; she would scream, dance, laugh and cry just as the fancy took her. She complained constantly of a pain in the groin and region of the womb, she had had a constant discharge of acrid pus per vaginam. Her menses were irregular from the first of their appearance, which was at the age of 14. She would often ask her attendants if there was no help for her. She was treated by various local physicians with but little benefit for several years. She had grown old-looking and very idiotic, she had lost all self-control and was decidedly childish.

She came under my care in September, 1890. I made a careful examination and diagnosed the case as hysterical insanity and advised ovariectomy, believing that her ovaries and tubes were diseased from the symptoms. I was met by stern opposition from members of the family, also from various counseling doctors. I finally sent her to a prominent specialist in Chicago, who decided it was a hopeless case of brain disease. The unfortunate girl heard the eminent specialist pronounce her doom, and came home much depressed and grew violent and wholly uncontrollable.

It was January 4 of the present year that, after such good counsel, her parents decided to send her again, for life, to the insane asylum. I remonstrated with them, and finally persuaded them to allow me to operate and remove her ovaries, which they did. Accordingly, on February 4, I performed the operation with the above result, for which both the patient and myself have much reason to feel gratified, for she is now entirely well, mentally and physically.

The usual steps of the operation being familiar to all, I shall not take time nor space to dwell

upon. The usual incision was made and the organs accordingly removed with the tubes. I found, as I had predicted, that both ovaries were in a state of chronic inflammation, also the tubes were in a state of pyosalpinx. A thimbleful of acrid pus escaped from each ovary in removing them, they having grown extensively on the bowels and surrounding pelvic tissues, which necessitated considerable tearing in order to remove them. An accident which is much dreaded by surgeons, and a most formidable one too, occurred in trying to tear the ovaries from the intestines. I accidentally tore the gut, which was followed by an escape of fecal matter and gas. Being prepared for such an accident, I at once proceeded to close the lacerated gut, which was done by simply excising the lacerated edges and putting in the Czerny and Lembert suture of silk. The wound closed, I proceeded to complete the operation by removing the other ovary with its tube, which was done without a similar accident. When I closed the wound and applied the usual dressing, I put the patient to bed, applied hot bottles and gave a full hypodermic injection of morphia, $\frac{1}{3}$ gr. She emerged from the chloroform in due time, and upon fully awaking she looked about her, but not with the former idiotic gaze, but a serene calmness which was remarked by the attending physicians. She said, "Dr. Kitto, have you succeeded in removing the offending appendages?" Being answered in the affirmative, she smiled and said, "I am so happy, and I feel so different that I know I shall now remain well." While this will be read with much doubt by some, yet I must insist upon the fact that it was none the less true. She continued to improve from that day on, which is now four weeks. She has been discharged from the hospital cured mentally and physically.

I believe this case will do much to establish my theory, that hundreds of unfortunate women are to day languishing in insane asylums, who might be cured by a similar operation.

This goes to show that this and many hundreds of such cases are not insane, in the usual acceptation of the term, but are subjects of reflex irritations.

I have not further time to-day to dwell upon this important case, but will write again on this subject, touching upon diagnosis and proper selection of cases for the knife.

March 2, 1891.

GERMAN OPPOSITION TO WOMEN IN THE PRACTICE OF MEDICINE.—A discussion occurred in the German Reichstag on March 11, touching the admission of women to the liberal professions, during which Herr Schröder urged that the government should open the way, and offer opportunities, for women in the practice of medicine. The House declared itself against the petition.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

TRICHLORACETIC ACID.—**EHRMANN** (*L'Union Médicale*, Feb. 28, 1891) has employed this agent in the treatment of diseases of the nose and throat. Touching the affected parts with a crystal produces a white eschar, strictly localized, rapidly detached, and free from secondary irritation or inflammation. Of 140 cases, 87 required cauterizing but once, 30 were treated twice, and a few resisting cases from three to five times. A permanent cure was effected in 122 cases. Ehrmann is of the opinion that this substance is of the first rank in the treatment of diseases of the throat and nose.

Trichloracetic acid may also be employed as an astringent, according to the following formula: Iodine 15 grams, iodide of potassium 20 grams, trichloracetic acid 15 to 30 grams, glycerine 30 grams, to be applied to the affected part upon pledgets of cotton.

THE OPEN TREATMENT OF PULMONARY CAVITIES.—**PROFESSOR SONNENBURG** reports five cases in which he opened pulmonary cavities from the outside as a preliminary to treatment by injections of tuberculin (*Die Wirksamkeit des Koch'schen Heilmittels gegen Tuberculose. Amtliche Berichte, etc.*, p. 837, et seq.). His method of procedure and the immediate results of the operation in the first four cases have already been described (*Supplement*, January 17, 1891, p. 21). As soon as the slight reaction following the incision has subsided the injections are begun, and Sonnenburg says their effect can be followed as readily as on the skin and mucous membrane. The action of the remedy was well displayed in the case last operated on in which a cavity in the right apex was laid open. For a fortnight after the operation Koch's treatment was not employed. In strong contrast to what occurred in the other cases, the cavity remained greasy and discolored, did not become clean, and showed no tendency to heal. As soon as the injections were begun the cavity was transformed into a healthy granulating wound. In all the cases a considerable amount of necrotic lung tissue was expelled, after which the cavities began to shrink; and, with regard to three of the patients, "one can already speak of almost complete cure." The result of the combinations of the injections with incision of pulmonary cavities has been to convince Sonnenburg that the treatment presents no danger, and offers good hopes of cure. In the three successful cases the general condition has improved; there are fewer tubercle bacilli in the sputum, and the patients have gained weight. Sonnenburg adds that further experience is required before trustworthy rules can be laid down for the guid-

ance of the practitioner in the selection of suitable cases for the surgical treatment of pulmonary cavities. Much also has still to be learnt as to the right method of using tuberculin, particularly as to individualizing the treatment. —*British Medical Journal*.

Surgery.

THE PATHOLOGY AND SURGERY OF THE APPENDIX CÆCI.—Although the Clinical Society departed from its usual course and devoted a meeting recently to an adjourned discussion on the above subject, yet it must have been felt at its close that the question had been by no means exhausted. It is one that has of late years come prominently to the front—one, too, in which both physicians and surgeons have an interest. It deals, moreover, with a class of disease of singular frequency, and of varying fatality. To discuss it adequately would require a debate much more prolonged than that which has just been assigned to it. We will therefore content ourselves here with noting some of the points raised in the course of that discussion. In the first place is to be remarked the want of unanimity upon the true nature of so-called typhlitis—a term which is, in the opinion of some, misapplied to the larger proportion of cases that are at present included under it. Although Mr. Treves has apparently gone back from his former belief as to the frequency with which the appendix shares in the production of the symptoms of typhlitis, and although, as Mr. Pearce Gould showed, the diagnosis of "appendicitis" had in some quarters been often very erroneously made, still there is no question that the pathological evidence of an independent inflammation of the body of the cæcum is as rare as the verification of an inflamed and ulcerated appendix in cases of "typhlitis" is common. Drs. Coupland and Kingston Fowler expressed this view strongly, the latter dealing with definite post-mortem facts. Mr. Treves laid some stress upon the palpation of an enlarged appendix through the rectum as serving to distinguish the cases; but he did not state whether this plan had been adopted in the ordinary cases, which recover under the guiding principles of "rest;" and it is certain that "relapsing" cases form no very large proportion of all those in which there is appendix mischief, nor, indeed, that there is more danger in a relapse than in a primary attack. On the whole, it will conduce to lucidity if we regard the appendix as the seat of the trouble in all classes of cases—those which resolve and those which lead to more or less extensive perityphlitic suppuration. Mr. Bland Sutton's comparison of the appendix to the tonsil was suggestive, but hardly essential to the argument. For although, as he showed, this structure is richly provided with lymphatic tissue, yet it is by no means certain that its inflammatory lesions are primarily

evolved and not excited by faecal or other impacted contents. As to the results of inflammation and ulceration of this structure, the cases may be grouped under the following heads: 1. Cases where perforation occurs suddenly, leading to general peritonitis. 2. Cases where the surrounding inflammation is limited, owing to the formation of adhesions. This class may be further subdivided into (a) those where there is resolution of the inflamed products, with or without a liability to relapse; and (b) those where suppuration takes place, the ultimate issue being uncertain, the pus sometimes burrowing into the tissues outside the peritoneum in various directions, sometimes being more or less confined within a peritoneal abscess, the existence of which is a constant element of danger to life. There can be no hesitation as to the propriety of surgical intervention in these latter cases; but the fact that the progress of the suppurative inflammation is often very insidious emphasizes the need for a prompt recourse to surgery whenever possible. A highly interesting point was raised by Mr. Pearce Gould—namely: whether the diseased appendix should be removed or not. He advocated the latter course, trusting to free incision and drainage, and he was supported by Mr. Charters Symonds; whilst Mr. Sutton, in his able reply, contended that this would hardly be an advance upon the old practice, and that it would be wrong to leave behind the source of irritation. The final decision in this matter must be left to the teachings of experience. One thing at any rate may be hoped for as the result of this debate, and that is a prompt resort to surgical interference when the indications point to extension of the inflammatory process to the general peritoneum or the supervention of suppuration.—*The Lancet*.

RESULTS OF OPERATIONS UPON TUBERCULOUS LYMPHATIC GLANDS.—NOORDEN (*Beitrag zur Klin. Chirurgie*) gives the results in 149 cases that were operated in the clinic of Tubingen. Only those cases were tabulated in which three years or more had elapsed since operation—93 cases were free from any return of the disease at periods varying from three to fourteen years. In 30 cases the disease returned, with local manifestations; 31 cases died within sixteen years of operation. In no case was there a return of the disease later than six years after operation. The writer reckons that 28 per cent. of all patients suffering from lymph adenoma die of other forms of tuberculosis. The most usual form of which is phthisis pulmonalis, and the writer recommends the early extirpation of enlarged glands, to protect the patient from a general systemic infection.

Physiology.

RECENT EXPERIMENTS ON THE CERVICAL SYMPATHETIC AND SYMPATHETIC GANGLIA.—The

existence of vasomotor fibres for the iris, and certain secretory fibres for the salivary glands in the cervical sympathetic nerve is well known. Luchsinger several years ago found that the cervical sympathetic also contains secretory fibres for the glands in the muzzle of the ox. Arloing (*Archives de Physiologie*, ii, 1890, p. 1) confirms the existence of these fibres; but he finds that inhibitory secretory fibres are also present in the same nerves. Ten minutes or so after section of the vago-sympathetic nerve in the ox the muzzle of that side becomes dry. Twenty to forty days after section of the cervical sympathetic, or rather the vago-sympathetic, nerve, stimulation of it is without effect; but if pilocarpin be injected there is active secretion in the glands in both sides of the muzzle, but the secretion is more pronounced on the side on which the nerve is divided. According to Arloing, the result is not due to vasomotor effects, but is to be explained by the inhibitory influences of the inhibitory secretory fibres disappearing with the degeneration of the inhibitory nerve fibres. An increased secretion of tears and also of the secretion of the Meibomian glands occurs after section of the cervical sympathetic, and the secretion is further increased by pilocarpin. Arloing regards these glands as receiving more inhibitory than secretion-exciting fibres. Hirschmann some years ago showed that after nicotine was given to an animal the cervical sympathetic lost its effect on the pupil. Langley and Dickinson (On the Local Paralysis of Peripheral Ganglia, etc., *Proc. Roy. Soc.*, vol. xlv, p. 423) find, however, that in the rabbit stimulation of the nerve above the superior cervical ganglia causes dilatation of the pupil. What, however, constitutes the chief interest in their observations is the local action of nicotine. If a 1 per cent. solution of this drug be peuced on the superior cervical ganglion, stimulation of the nerve below the ganglion or of the ganglion is without effect on the iris. Nicotine, however, when applied locally to the nerve above the ganglion, has no effect on the nerve. Nicotine applied locally to the ganglion prevents stimulation below the ganglion from having its usual vasomotor effect on the blood vessels of the ear, and in addition the secretory action on the salivary gland is also arrested. The authors conclude that the sympathetic fibres for the blood vessels of the ear, the fibres for the iris, and the secretory fibres for the salivary glands, end in the nerve cells of the superior cervical ganglion, and from these nerve cells fibres proceed to their regions of distribution. Similar results were obtained by experiments on the solar plexus, that is, the local application of nicotine prevented the inhibitory effect of the splanchnic nerve on the movements of the intestine and stomach. Beyond the ganglion the fibres were active. The authors conclude that the inhibitory fibres of the splanchnic for the stomach end in

the nerve cells of the cœliac ganglion, and those for the intestine in the superior mesenteric ganglion. Even when both plexuses are eliminated by the local action of nicotine, stimulation of the vagus still causes movements of the stomach and intestine, so that it is concluded that the vagus does not form connections with the nerve cells of these two plexuses. The vasomotor fibres, however, appear to end in or form connections with the nerve cells in these plexuses. In a later research (*Archives de Physiol.*, No. 1, January, 1891, p. 160) Arloing gives an account of continuation of his researches on the cervical sympathetic nerve, and in this paper he cites experiments which lead him to believe that trophic nerve fibres are also present in this nerve. The experiments were made on the ox and dog. In the muzzle of the ox marked histological changes in the papillæ and stratum granulosum follow upon section of this nerve. In the dog after section of the vago-sympathetic nerve, the humidity on the muzzle is not altered, nor does galvanic stimulation of the nerve or injection of pilocarpin increase the moisture, these results being due to the absence of glands in the more hairy part of the dog's nose, while such glands are abundant in the muzzle of the ox. After two months or so, however, there are marked changes in the nose of the dog, the skin becomes papillated and dry, while there is great hypertrophy of the corneous layer. Arloing concludes from his experiments that the cervical sympathetic nerve in the ox and dog contains trophic fibres for the glands and epithelium in the former, and for the epithelium in the latter; and that their action is independent of the vaso motor and glandular nerve fibres.—*Brit. Med. Journal*.

POWERS OF PERCEPTION OF CHILDREN.—BINET (*Revue Philosophique*, December, 1890) has made a series of very interesting observations on the powers of perception of children. He experimented upon two little sisters, and found that the first color to be recognized was invariably red. When between 1 and 2 years old they could easily recognize the entire figure drawn on paper in outline of some common object, as a man, but it was several years before they could with certainty recognize an outline drawing of some individual part—as an ear or a finger. Binet also investigated how far the ideas of children are spontaneous, and how far they are recollections of dreams, but he found it difficult to come to any conclusion. He points out that at first children always regard themselves in the third person, and he gives several interesting conversations which show that their ideas about all objects are utilitarian; for example, they look upon a knife as a thing to cut with, bread as something to be eaten, and so on.

Pathology.

THE MICROÖRGANISMS OF CANCER.—DR. SCHUTZ (*Centralbl. f. Chir.*, January 24th, 1891), whilst fully recognizing the appearances which have been described by several authors as occurring in cancer, does not, however, regard the bodies in question as living organisms, but thinks it far more probable that they are formed (in part, at least) of red blood corpuscles which, both in carcinoma and sarcoma, find their way freely into the tissues and assume various disguises, so that their origin is not easily determined. Another source of the so-called organisms depends, he asserts, on the alteration of the cells of the various tissues which take upon themselves amoeboid movement, and congregate oftentimes in masses; and it is by the alteration of these masses that the so-called sporecysts are formed. So far, he is of opinion we are as far as ever from finding the true organism which produces cancer, even supposing that it exists.—*Brit. Med. Journal*.

THE BLOOD IN PNEUMONIA.—DR. KIKODZE has published in the *Bolnichnaya Gazeta* of Dr. Botkin, some interesting observations on the blood during pneumonia. He found that during the course of this disease the white corpuscles increase in number to as much as double, or even treble, what they are in healthy persons. The increase is observed in the fully mature and over-mature corpuscles rather than in the young ones. It is worthy of note that in fatal and very severe cases no increase in the white corpuscles is found. As a rule, however, the increase begins even before the physical signs of pneumonia are detected. It persists from that time onward without any great variations to the crisis, immediately after which it suddenly falls.—*Lancet*.

Hygiene.

TYPHOID BACILLUS IN DRINKING WATER. DR. FINKELNBURG (*Centralblatt für Bakteriologie und Parasitenkunde*, March 7, 1891) mentions an instance in which he examined a suspected water and found no bacilli by the ordinary method—mixing a cubic-centimetre of the water with nutrient gelatine and spreading out upon plates. By the use of his settling apparatus (described in the *Corresp.-blatt des niederrhein. Vereins für öff. Ges. Pfllege*, Band 11) there developed in the cultures colonies of bacteria, that appeared to be identical with Eberth's typhoid bacillus. Within a few years the writer has examined fifteen samples of water thought to contain the typhoid bacillus in which the ordinary method of examination gave negative results, but the application of the settling method demonstrated on the first trial the presence of the bacillus. He thinks the use of this method would in many instances demonstrate pathogenic organisms in waters, which are now pronounced free from contamination.

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THE FURTHER DEVELOPMENT OF THE SECTIONS.

It seems to us that the time has arrived when the question should be carefully considered by the members of the Association, as to the best method of developing the work of the Sections, of presenting that work at the annual meetings, and of preparing the same for publication.

Faithful as its officers have been, and liberal in the expenditure of money as some of the officers of Sections are, in the effort to secure a proper reporting of their proceedings, still we doubt if in any instance they have been fully satisfied with the results they sought to accomplish. The fault was certainly not with them, but in so far as there was failure it was inherent to our present method of securing and presenting, discussing and publishing our papers.

It was with no ordinary effort that the Sections, now eleven in number, were inaugurated and brought into their present working order. Thus far, probably, the present methods were the best that we could hope to secure. But now that the Sections are firmly and permanently established, it seems desirable to carefully consider to what extent and in what respects modifications may be made which may remedy existing evils, and enhance the general good. With this in view, and with no purpose to undo what has already been so well done, we desire to offer for the consideration of our members the following suggestions:

1. With reference to the preparation and pre-

sentation of papers. Practically, at the annual meetings there are three working sessions of the Sections, extra sessions not included, of about three hours each, giving at the most from ten to twelve hours for the presentation of papers. If the length of these papers be limited to twenty minutes each, and the discussion of each paper to the same length of time, not more than fifteen papers can be profitably presented in any one Section. This would give an aggregate of at least one hundred and fifty papers for publication, which, with the discussions properly reported, would fully occupy the pages devoted to the publication of "Original" matter in THE JOURNAL for the entire year.

Of a given fifteen papers in a Section at least ten could be assigned to men of known ability in token of honorable recognition. It should be accounted a matter of honor—also, if a man be assigned to the discussion of a given paper, and if each fulfill his engagement, every paper would secure appropriate consideration. Five volunteer papers could also be presented, thus giving abundant opportunity for individuals desiring to present special subjects to come before the Sections, such volunteer papers or full abstracts of the same being first submitted to a constituted board for their approval. No papers should be read simply by title and referred to the publishing committee, nor should papers be announced in the programme unless there is reasonable assurance that they will be read in the Sections. Thus the officers will have measurable control of the material to be submitted both as to its amount and quality.

2. With reference to the reporting of the proceedings. We deem this an important matter. No just estimate can be made of the work done in any given Section unless it is properly reported. We have reached the point now when such reporting is perfectly feasible. The present receipts of the treasury will safely permit the necessary expenditure. We have carefully considered the cost and find that expert medical reporters can be secured by a single contract for the full reporting of the eleven Sections, in typewritten copy, for from eight hundred to one thousand dollars per year.

An annual appropriation of one thousand dollars, which the present income of the treasury will fully warrant, will secure the full and satisfactory reporting of our entire proceedings.

3. The publication of the papers presented in the Sections. These should be referred to the careful supervision of men specially qualified for their work by reason of their familiarity with the subjects to be considered. We believe the best interests of the Association will be promoted by the selection of one member from each Section who shall be charged with the duty of preparing the papers and discussions of his Section for publication, and that suitable recognition for such services should be made, in such manner as the Association may deem advisable.

No editor-in-chief, nor supervising editor, is alone competent to this work, and once the supervision is given into the hands of those who are experts in their specialties, the "Original" department may become the crowning feature of our JOURNAL.

In the next issue we purpose to consider the question of the increase of our membership, and in that connection to suggest the propriety of appointing, at a suitable time, an able committee which shall consider these various subjects, and at a subsequent meeting, recommend to the Association such modifications of our present plans as may be deemed desirable.

LAST WINTER'S EMERGENCY IN PARIS.

The efficient measures adopted in Paris for the relief of the poor and starving, during the terrible cold of last January, command our highest admiration. The statistics, showing the number of lodgings and meals provided, have been cited with wonderment throughout Europe. For celerity of action and unstinted relief to the suffering the Municipal Council have left a record that must prove most stimulating to other cities when they shall have been brought face to face with a like trying emergency of cold and want.

Much want occurred in unexpected quarters because so many people were thrown out of employment by the extreme cold and they could not get the money wherewith to pay their rent. Many such were compelled to leave their homes and live in the streets, for a time at least. This strange emergency was met by the prompt establishment of eighty or more "brasseros" or great open fires in grates in the public places, so that many were there cheered and revived when weakened by the cold. Temporary refuges and special

shelters for women were organized in art galleries and gymnasia so as to accommodate many hundreds, giving both food and sleeping places. All this was done by the authorities without hesitation or red-tape. The maximum of these lodgings taken up on any one day was 4,500. The beds consisted of a mattress of straw and a military rug, or robe, provided by the War Department. Soup was served out morning, noon and night. As many as 24,000 soup-portions were prepared in a single day. It is calculated that the soup cost about three cents per plate. It was made of beans, peas, lentils, salt and lard, bones and fresh vegetables being exorbitantly high priced during the "cold snap." The lard was found to make a fair substitute for soup-meat. Soup of this kind was still being given out at the Paris refuges after the month of March had opened. The heartiness, catholicity of charity, and even hospitable spirit with which this proffer of relief was extended made it easy for those in want to accept of it. At first no inquiry was made of any applicant, but subsequently, when the rigor of the cold had moderated, the personal descriptive papers were required to be shown. Perhaps the most active man in all this charitable work was Dr. Paul Brousse, a vice-president of the Municipal Council, and physician. It was in part, at least, due to his personal representations to the authorities that some of the measures of relief were so rapidly undertaken; and he thus became the willing means by which much suffering, sickness, starvation and mortality were prevented. Not the least remarkable feature in strange situations was the celerity of action on the part of public officials, who for the time being became a unit in the disregard of precedent, red-tape and every other ordinary occasion for delay.

If the poor famishing Brules and Ogallalas, in the West, could for a short time only have the services of Dr. Paul Brousse, it would be a god-send to the country.

SPLENIC LEUCOCYTHEMIA.

DR. H. TOULMIN has described in the *Johns Hopkins Hospital Bulletin* a well-marked case of this disease, in which the microscopic blood-conditions were examined with more than usual minuteness. The patient was a colored waiter twenty-three years old. He gave a history of malarial

infection, dating back about two years; and had been suffering from swelling of the abdomen and legs from six to nine months. Among other symptoms he had had were epistaxis, a slight diarrhoea and incontinence of urine; priapism, so often observed in leucocythemia, was denied as having existed. The splenic "lump in his stomach" was first noticed by the patient about nine months before, when it would seem to have attained its present enormous size quite rapidly. It was prominent in the left hypochondrium and epigastrium, and occasioned a girth of 36 inches at umbilicus. The lump was a firm, solid and movable mass, occupying the left zone, reaching to the level of the anterior superior spine, to nearly three inches from the pubic bone and to three and a half inches to the right of the median line at the umbilicus. The edge of the swollen spleen could best be palpated in the right inguinal region. No notch could be felt. Posterior dullness on percussion extended from the lower border of the seventh rib for sixteen inches. There was no pulsation; no murmur could be heard; the superficial veins showed no enlargement; no engorgement of the lymph-glands, and no tenderness over the bones or enlargement of their extremities were found. The examination of the blood showed the proportion of white corpuscles to be as one to four, to the reds; reds were 2,008,000; hæmaglobin 30 per cent. Two weeks later, there were reds 2,700,000; proportion of whites to reds 1 to 4.48; total of Fowler's solution taken minims cc.; hæmaglobin not stated. One month after last entry, there were reds 3,430,000; proportion of whites to reds 1 to 18.8; total of Fowler's solution minims ccxxx; hæmaglobin 51 per cent. As indicated in the above, the patient was put on Fowler's solution, beginning with three minims thrice daily, and increased to six minims. Under this treatment the oedema was reduced, and some of the other symptoms were mollified; but the splenic enlargement remained and was practically unchanged. The general condition of the patient is otherwise favorable, and the man reports to be feeling well. An examination of the cell-elements, made according to Ehrlich's method, show the blood to contain some in deficient quantity, such as lymphocytes 4 per cent.; polynuclear neutrophils 50 per cent.; mononuclear transition forms 5 per cent.; while others are in excess,

such as eosinophiles 5 per cent., and myelocytes (mononuclear neutrophils) 30 per cent. Not the least remarkable feature in the case is the excellent general condition that has been sustained; he states that he has never before weighed more than 165 pounds, while at present his weight is ten pounds above that record.

EDITORIAL NOTES.

THE PRELIMINARY TRAINING OF RAILWAY EMPLOYÉS.—In view of the very large number of accidents, resulting either fatally, or in the maiming of the unfortunate ones for life, it is proposed to establish schools of training at favorable railway points. In the aggregate the number—2,000 killed, and 20,000 injured in 1890—of sufferers is great, and the utmost means of prevention should be taken. It is true that carelessness is responsible for a goodly proportion of the accidents, and it is this very factor which will be largely overcome by a proper drilling, and a due presentation of consequences.

A NEW DISEASE.—Two English physicians—Dr. Hale White and Mr. Golding-Bird—have recently described an affection to which they give the name "Idioglossia." It appears that the patients hear well, and express themselves in articulate sounds, but such sounds are unlike those of any known language. The patients really have a language entirely of their own, in which there does not seem to be any confusion, *i. e.*, the sounds given forth have an intelligent application, and the same sound always has the same meaning. The discussion before the Royal Medical and Chirurgical Society was varied, some of the members contending that the so-called language of those affected was but a modification of the English tongue, and was to be accounted for by a lack of development in that particular direction.

A LITERARY PHYSICIAN.—Notwithstanding the almost constant application required of a physician in the active pursuit of his profession, yet there are men—we have them in this country—who find, or make, the opportunity of adding literary laurels to the honors achieved in medicine.

Dr. William Stricker, of Frankfort-on-the-Main, has recently passed away, leaving behind enduring works, of which the following is a partial list: "History of Medicine in Frankfort;" "The Lives of Soemmering, Neff and Stiebel;" "Ett-

ner's Medical Novels;" "The Cure of the Sick in the Wars of the Past;" "Taylor, Ludwig Hoernigk, Burggrave, Haller, Zimmerman;" "The Mortality of Children;" "Suicide;" "Marriages between Blood Relations;" "Medical Statistics;" "Hermaphroditism;" "Hairy Men;" "Small-pox;" "Vaccination;" "Labial Cancer;" "The Effects of Lightning on the Human Organism;" "History of Frankfort;" "Life of Goethe," etc.

A CASE OF ACROMEGALY.—Dr. Joseph Redmond has recently reported to the Irish Royal Academy of Medicine a case of acromegaly, believed to have been the first hitherto reported from Ireland. According to the *British Medical Journal* the attack dates from December, 1889, during the prevalence of the influenza. The patient, a female of 19 years, was admitted to the hospital in July last. The first symptoms that attracted her attention were the changes in her hands and feet, which became swollen, sore and tender to the touch. The hands were large, fingers thick and bulbous, with nails somewhat convex; the back of hands became œdematous, but did not pit on pressure. There was marked increase in the size of the carpal ends of both radius and ulna. The knees were enlarged, as well as the legs and ankles. The ankle-joints contained some effusion. The feet were larger and thicker than normal; the toes were thicker and bulbous. The dorsum of the feet was œdematous. Urine normal. The thyroid gland appeared to be absent, and no evidence of the persistence of the thymus could be obtained. Pulse average was 100; temperature 101.6°; respirations 24. The patient has at times complained of lumbar pains, and has had occasional attacks of diarrhœa.

DEPOPULATION FROM DISEASE.—Official reports go to show that the native population of Alaska is fast disappearing, mainly from the severe ravages of syphilis, tuberculosis and small-pox. Medical measures are unknown, yet if there was some appreciation of the advantages of prevention and treatment there appears to be no opportunity by which aid could be given. The plight of these unfortunates is certainly a sorry one, and the possibilities for the medical missionary are great. Some attention, whether governmental, or through the operation of the organ-

ized charitable associations, should be directed to this state of things prevailing upon American soil.

A VERY COMMENDABLE FASHION.—Occasionally Fashion—so-called—has the credit of leading the susceptible mind into channels where Health and Vigor follow. This is the case—this is the leading—at present in regard to hot milk as a popular beverage. If only the temperance disciples could fully awake to the golden opportunity this "fad" opens!

Hot milk is a wonderful food and stimulant. It combines these two virtues most happily, more so, probably, than any other one substance, or combination of substances. National degeneracy need hardly be feared from the universal consumption of hot milk as a constant drink. We can see but one danger in this direction, and that we believe will be fully overcome by having the temperature of the milk, in all cases, carried to the boiling point.

EPIDEMIC INFLUENZA IN AFRICA AND ASIA.—Letters from the Congo Free State mention the occurrence, in October last, of an extension to those parts of an epidemic sickness that bears a very close resemblance to the "Russian influenza." Nearly everybody has had "a cold," while some have been very ill. The season there has been unusually cold in the upland regions, two and three hundred miles back from the coast.

A letter in *The Lancet*, also, states that at Gilgit, Kashmir, in December, there had been an epidemic, supposed to have been taken there by a party of Moslem priests from a place 200 miles farther west, where the influenza had already been prevalent. These mountain valleys, about 5000 feet above the sea, called the Hindu Khush valleys, have hitherto been exempt from the influenza, although it had existed in India earlier in the year 1890. The invasion seemed to approach from the west rather than from the south, although the avenues of communication, in the latter direction, were much more accessible.

THE INTERVIEWER IN MEDICINE.—Some of our New York brethren in open rebellion against the American Medical Association, held an experience meeting a few weeks ago, to which some how the ubiquitous reporter also came, presumably for the benefit of those who do not take the journals. There was a debate upon the inter-

views as conducted by the secular press, faintly apologetic but mainly mock-heroic in tone with which nearly all (lay and professional) regaled themselves at their morning breakfast. With a single exception, the speakers who were sticklers for the dignity of the profession were either silent or un-reported. We need not remind our brethren of goodly Gotham, who are so strenuous about enlightening the public, that there is an oft quoted phrase about barking with hounds and running with the hare. There also comes to us the story of the vain-glorious veteran, of whom some little Wilhelmina, "with wonder-waiting eyes" asked, "Grand-pa didn't you have anybody to help you."

MEDICAL ITEMS.

DISSECTION MATERIAL IN NEW YORK.—A bill to meet the wants of post graduate instruction in surgical anatomy at the two schools in New York City has been put upon its passage. The under graduates' schools have hitherto been able to absorb all the material allowed by law to be distributed to the colleges. The new arrangement will, if it passes the legislature, enable the post-graduates to come in for a *pro rata* share.

CRUELTY OF A NURSE PUNISHED.—A recent conviction in New York has resulted in sending up to Sing Sing Prison a former Bellevue Hospital nurse, who struck a blow at a delirium tremens patient, who spat upon the nurse; the patient was in a strait-jacket at the time. The conviction was for assault in the second degree and the term of imprisonment will be two years and eight months.

A TORNADO MEMORIAL HOSPITAL.—The citizens of Louisville, on March 27, commemorated the cyclone of last year by meeting and by taking up collections for the establishment of a Children's Hospital, to be a memorial of the destructive tornado. It is reported that \$30,000 have already been promised for this unusual project to link a great public calamity with an enduring monument of charity, and thus convert it into a blessing in disguise.

INFLUENZA IN CENTRAL AFRICA.—A recent number of the *Lancet* publishes a letter, dated October 11, 1890, from the neighborhood of Lake Nyasa, Central Africa, by which it appears that epidemic influenza had just reached that distant

point. It had been very severe and a number of deaths among the natives had resulted from it or its consequences; most of the Europeans at Blantyre, a Scottish mission station near the Shiré River, had been attacked by it in a more or less severe form.

TOBACCO AND ORGANIC LESION OF THE HEART.—In connection with the discussion which occurred at the New York Academy of Medicine at its stated meeting of Dec. 18, 1890, (as chronicled in the *Medical Record* of Jan 17, 1891), relative to the influence of tobacco upon the system, the President, Dr. A. L. Loomis, thought that when tobacco poisoning reached a point where it produced disturbance of the heart there was something more than functional disturbance; there was a change either in the connective tissue or of the muscular fibres of the heart. Such hearts did not bear ether nor cocaine. He impressed the fact that the heart condition was not functional; it was organic.

Dr. A. Jacobi having elicited from the President the opinion that in such cases there was never, as far as his observation had gone, entire recovery from the heart trouble, said that he could not agree with him. He knew persons who had had functional disturbance of the heart from tobacco-poisoning recover entirely after the use of tobacco had been discontinued. That was a hope which he thought we should hold out to our patients, unless it could be shown that the lesion causing the disturbance was of a nature which did not admit of entire recovery.

The President thought Dr. Jacobi had in mind cases of disturbance of the stomach from use of tobacco, which caused reflex irritability of the heart.

Dr. Jacobi remarked that the President seemed to know his mistakes better than he knew them himself. He did not believe that he had made a mistake, although he thought there was room for diversity of opinion. He would be very sorry to have patients get the idea that their condition was an organic change in the heart which could not be remedied.

Dr. Andrews mentioned a case in which the man was obliged, twenty-five years ago, to give up tobacco on account of disturbance of the heart, and he remained well to-day at 76.

TOPICS OF THE WEEK.

OFFICIAL REPORT ON THE RESULTS OF KOCH'S TREATMENT IN PRUSSIA.

We surrender the space usually assigned to the consideration of current medical topics, this week, that we may present to the readers of THE JOURNAL a very complete *résumé* of the results thus far obtained in Prussia, in connection with the use of tuberculin in the treatment of tuberculous diseases. From the voluminous report published as a supplement to the *Klinisches Jahrbuch der British Medical Journal* of March 14, presents the following valuable abstract, which we publish entire:

The official report of the results of Koch's treatment of tuberculosis, as observed in the University clinics and "polikliniks," and other public institutions of Prussia, has just been issued in the form of a supplement to the *Klinisches Jahrbuch*, a publication which owes its existence to Cultus Minister von Gossler. The editor of the volume is Professor Albert Guttstadt, Lecturer on Medical Statistics in the University of Berlin. It includes 55 reports, of which 43 are from the University clinics and "polikliniks," 2 from non-clinical departments of the Charité Hospital, 2 from the Moabit City Hospital, and 8 from pathologico-anatomical institutes of universities. The period to which the reports refer comprises, as a rule, the eight weeks from the beginning of November to the end of December, 1890; in some few cases, however, it goes down to the middle of January, 1891. The reports of Professor Fränzel and Dr. R. Köhler begin from September 12 and October 11 respectively. The total number of patients injected during the period covered by the reports was 2,172, the total number of injections being more than 17,500. The greatest number of injections in any one case was 54. This patient was under the care of Dr. Paul Guttmann, suffering from very advanced pulmonary phthisis, and he received in all 3,345 grams of the mother liquor. He is now in a relatively favorable condition, but there is no appreciable change in the objective symptoms. The largest quantity of tuberculin administered in any one case was 3,826 grams. This patient (a man with pulmonary phthisis, under the care of Professor Fränzel) received in all 43 injections. In this case remarkable improvement in the physical signs and in the general bodily condition followed the treatment, and was maintained when last heard of (in February).

The volume contains reports from Professors Leyden, Gerhardt, Senator, Fränzel, Bardeleben (with Dr. A. Kochler), Olshausen, Jolly, Henoch (with Dr. Goerne), Lewin, Schweninger, Schweigger, Lucae, E. von Bergmann, B. Fränkel, and R. Virchow, and Drs. R. Köhler and Westphal, of the University of Berlin; Professors F. Schultze, Trendelenburg, Doutrelepon, Walb, Finkler, and Koester, of Bonn; Professors Biermer, Mikulicz, Fritsch, Neisser, and Ponick, of Breslau; Professors Ebstein, König (with Dr. Hildebrand), and Orth, of Göttingen; Professors Mosler and Strübing (with Dr. Peiper), and Helferich, of Griefswald; Professors Weber, von Bramann, Schwartz, and Ackermann, of Halle; Profes-

sors Quincke, Edlefsen, von Esmarch, and F. Petersen, of Kiel; Professors Lichtheim, J. Schreiber, Braun, von Hippel, and Neumann, of Königsberg; Professors Mannkopf, Rumpf, Küster, Barth and Marchand, of Marburg; besides supplementary reports from Professor Julius Wolff, of the Berlin Orthopaedic Poliklinik, Professor A. Heller, of the Pathological Institute at Kiel, and Dr. Paul Guttmann and Professor Sonnenburg, of the Moabit Hospital, Berlin. Professor Koch's two papers on his remedy are published in an appendix. Finally, there is an elaborate analysis of the reports with tabular statement of the clinical details, number and doses of injections, and results in most of the cases, by Professor Guttstadt.

DIAGNOSTIC VALUE OF TUBERCULIN.

Internal Tuberculosis.—Leyden looks upon tuberculin as of essential service in confirming the diagnosis of tuberculous disease, but in the absence of definite symptoms would not rely on it alone for that purpose. Gerhardt thinks it is not absolutely to be depended on, inasmuch as cases have occurred in which, though tubercle bacilli were undoubtedly present, the injection caused no reaction. It may, however, be useful for the differentiation of tubercle from syphilis in the larynx and lung. Schultze thinks it, within certain limits, a reagent for the detection of tubercle. Biermer expresses himself with some reserve, as he has met with two cases of certain tuberculosis with bacilli in the sputum in which continued injections produced neither general nor local reaction. Ebstein thinks the detective action of the fluid uncertain; This opinion is shared by Mosler, Strübing and Peiper, who, nevertheless, think tuberculin may help to show whether previously existing tubercle is cured or not. Weber says it is not a sure diagnostic agent for internal tuberculosis, and does not give certain results in doubtful cases; it is more useful in external disease. Quincke is at present unable to conclude that in all cases in which the fluid causes reaction there are latent foci of tuberculosis. Finkler and Schreiber place more reliance upon it, and Rumpf thinks it of service in doubtful cases. P. Guttmann speaks in the tone of an ardent believer. In pregnant women Olshausen says tuberculin has failed to produce any reaction when the existence of phthisis was certain. Fritsch thinks the fluid is of high diagnostic value in the differentiation of tubercle from cancer.

External Tuberculosis.—Bardeleben and A. Köhler admit that tuberculin occasionally fails to produce reaction in cases of external tuberculosis; they think this may possibly be accounted for by individual idiosyncrasy or by slight differences in the fluid itself. Von Bergmann thinks it is a valuable means of differentiating tubercle from syphilis and cancer; Trendelenberg considers it reliable except in tubercle of the testis; Mikulicz places confidence in it; König and Hildebrand do not value it highly; Helferich thinks it an important aid to diagnosis; von Bramann says it is "apparently" a sure reagent for tubercle; von Esmarch also thinks highly of it in lupus and in bone and joint disease; von Braun and Küster think it extremely useful, though not infallible; R. Köhler and Westphal look upon it as superior to all

known aids to differential diagnosis; Lewin considers it useful; Doutrelepoint and Neisser think it of high diagnostic value; von Hippel has found it of service in two cases of doubtful eye disease.

THERAPEUTIC RESULTS.

Commencing Pulmonary Phthisis.—Leyden treated 9 cases of commencing pulmonary phthisis, but no statistics are given as to results. Gerhardt treated 15 cases, of which 4 were discharged improved and 11 are still under treatment; of the latter 3 are said to be materially improved, 1 is improved, while in 7 there is no change. Senator reports 39 cases, of which 10 have been discharged and 29 are still under treatment; of those belonging to the former category, 3 were materially improved, 3 were improved, and 4 were *in statu quo*. Of those still under treatment, 2 are greatly improved, 3 improved, 20 are unchanged, and 4 have been made worse. Schultze has treated 9, of which 1 has been discharged unrelieved, while of the 8 still remaining under treatment, 2 are materially improved, 2 improved, and 4 unrelieved. Biermer has had 12 cases, of which 2 have been discharged unrelieved, while of the remaining 10, improvement is recorded in 6 and no improvement in 4. Ebstein reports 3 cases, of which 1 was discharged unrelieved, while of the 2 others, 1 is not improved and 1 is described as worse than before the injections were begun. Of 7 cases treated by Mosler, 2 have been discharged materially improved, 1 improved, and 2 unrelieved; of the 2 still under treatment, both are improved. Of 9 cases still under treatment by Weber, 3 are materially improved and 6 are improved. Quincke reports 10 cases, of which 2 have been discharged improved, while the 8 still under treatment show no change. Lichtheim has 9 cases under treatment, of which 2 are greatly improved, 4 are improved, and 3 are unchanged. Mannkopf has 9 cases under treatment, of which 1 is greatly improved, 2 are improved, and 6 are unrelieved. Finkler has had 10 cases, of which 4 were discharged cured and 3 greatly improved; the 3 remaining under treatment were all improved. Edlefsen has 2 cases under treatment, both of which are materially improved. Schreiber reports 12 cases, 1 of which was discharged cured and 2 unrelieved; of the 9 still under treatment, 2 are greatly improved, 1 is improved, and 6 are unchanged. Of 19 cases under Rumpf's treatment, 13 are greatly improved, 5 are improved, and 1 shows no change. Of 3 cases under Fräntzel's care, 1 is greatly improved and the other 2 show no change. Of 54 cases treated by P. Guttman, 4 have been discharged cured, 8 greatly improved, 1 improved, and 1 *in statu quo*. Of the 40 cases still under treatment, 21 are greatly improved, 10 are improved, and 9 are unchanged. Neisser reports 2 cases, both improved. Henoch has 5 still under treatment, of which 1 is improved and 4 unchanged. B. Fränkel has 4, all of which show great improvement.

Moderately Advanced Pulmonary Phthisis.—Leyden has had 23 cases, of which no particulars are forthcoming. Gerhardt has had 34, of which 2 have been discharged unrelieved, 2 have died, and of the 30 still under treatment 3 are materially improved, 4 improved, and 23 unchanged. Senator has had 32 cases, of which 1 has

been discharged greatly improved, 6 improved, and 14 unrelieved, while 1 has died; of the 10 cases still under treatment 1 is greatly improved, 3 are improved, and 6 show no change or have been made worse. Schultze has 26 under his care, of which 2 are greatly improved, 4 improved, and 20 unrelieved. Biermer reports 17 cases, of which 1 was discharged unrelieved, 1 died, and of the remaining 15, 5 are improved, and 10 show no change. Ebstein records 18 cases, of which 6 have been discharged unrelieved, and 12 are still under treatment without showing any improvement. Mosler has had 25 cases, of which 4 have been discharged much improved, 4 improved, and 14 unrelieved; of the 3 still under treatment all are much improved. Of 13 cases under Weber's care, 2 are much improved, 4 improved, and 7 unrelieved. Of 21 under Quincke not one shows any improvement. Of 16 under Lichtheim, 1 has died; and of the 15 still under treatment, 9 are improved and 6 unchanged. Of 13 under Mannkopf, 1 is greatly improved, 5 are improved, and 7 are unchanged. Of 27 cases reported by Finkler, 2 have been discharged materially improved, 5 improved, and 13 unrelieved; of the 7 still under treatment, 2 are improved, and 5 show no change. Of 4 cases under Edlefsen, 1 has been discharged much improved, and 1 has died; of the 2 still under treatment, 1 is improved, the other not. Of 11 cases treated by Schreiber, 1 has been discharged improved, and 4 unrelieved; of the remaining 6, there is material improvement in 1, while 5 show no change. Of 20 cases treated by Rumpf, 3 have been discharged unrelieved, and 1 has died; of the 16 still under treatment, 6 are much improved, and 10 *in statu quo*. Of 16 under Fräntzel, 3 have been discharged improved, and 1 has died; of the remainder, 4 are greatly improved, 2 are improved, and 7 are unchanged. Of 112 cases under P. Guttman, 16 have been discharged much improved, 4 improved, and 5 unchanged; of the 87 still under treatment, 14 are greatly improved, and 3 unchanged. Henoch has had 1 case, which was discharged unrelieved or rather worse than before. B. Fränkel has had 14, of which 1 has been discharged cured; the 13 still under treatment are all greatly improved. Lewin has had one case, which was discharged unrelieved.

Very Advanced Pulmonary Phthisis.—Leyden has had 20 cases, of which 4 have died; as to the remaining 16 no details are furnished. Gerhardt has had 8, of which 1 has died, and 7 are still under treatment without showing any improvement. Senator has had 8, with 5 deaths, the remaining 3 being unrelieved. Schultze reports 14, in none of which has there been any improvement; Biermer 7, with 1 death and 6 unrelieved; Ebstein 6, of which 2 have been discharged unrelieved, while 4, which are still under treatment, show no improvement; Mosler 28, of which 3 have been discharged greatly benefited, 7 improved, and 14 unrelieved, while of the 5 still under treatment 1 is improved and 4 unchanged; Weber 22, of which 2 have died, 2 are improved, and 18 unchanged; Quincke 5, of which 1 is improved and 4 not; Lichtheim 9, with one death, 4 improved, and 4 unrelieved; Mannkopf's, of which 1 is improved and 7 unchanged; Finkler 32, of which 3 have been discharged improved, and 11 unrelieved, and 2 have died, while of the remaining 16, 2

are improved and 14 *in statu quo*; Edlefsen 3, all unchanged; Schreiber 6, of which 1 has been discharged improved, 3 unrelieved, and 1 has died, while the 1 still under treatment shows no improvement; Rumpf 7, of which 1 has been discharged unrelieved, while of the 6 still under treatment 2 are improved and 4 *in statu quo*; Fränzel 17, of which 1 has been discharged improved, 1 unrelieved, 4 have died, whilst of the 11 still under treatment, 1 is greatly improved, 3 are improved, and 7 are unchanged; P. Guttman 30, of which 5 have been discharged unrelieved and 8 have died, while of the 17 still under treatment none show any improvement; Sonnenburg 7, of which 3 are greatly improved, 3 are improved, and 1 is unrelieved; Olshausen 3, of which 2 have been discharged unrelieved, while 1 is *in statu quo*; Henoch 1, discharged unrelieved; and B. Fränkel 5, with 1 death, 1 improved, and 3 unrelieved.

On the whole Leyden is fairly satisfied with the results so far, while Senator thinks them better than could have been produced by any other treatment; Schultze is not enthusiastic; Ebstein is inclined to be pessimistic; Biermer states that in 3 cases the tuberculous process made distinct headway during treatment; Mosler, Strübing, Peiper, Weber, Finkler, and Schreiber all speak with reserve; P. Guttman claims decided "improvement" in 38 per cent. of all his cases (164), and in 81 per cent. of the "incipient" cases taken alone.

Effect of Treatment on Symptoms in Phthisis.—1. Body weight: Of 61 cases under Gerhardt, 22 have gained weight, 17 remain as before, and 22 have lost. The gain ranged from $\frac{1}{2}$ to 5 kilos., the loss from $\frac{1}{2}$ to 8½ kilos. In one of the Senator's cases 4.4 kilos. were gained in a week, and on several occasions there was an increase from 1½ to 2 kilos. in the same space of time. Eight patients in a very advanced stage of phthisis, with cavities, chronic diarrhoea, etc., gained weight, in some cases as much as 2½ kilos. Biermer found increase in 11 cases, the average gained being from 2 lbs. to 3 lbs., and in one case as much as 10 lbs. In 17 cases there was progressive loss of weight to the extent of 1 lb. to 6 lbs.; in the other cases there was neither loss nor gain. Weber noted increase in 16, and loss in 28, while in 12 it remains stationary. P. Guttman says the weight increased in a large number of cases under his care, the maximum gain being 7½ kilos. 2. Expectoration: Gerhardt says expectoration mostly increased at first, in 5 cases it became bloodstained. Afterwards it gradually decreased, and became more mucous. In several cases the bacilli seemed to diminish at first; in particularly favorable cases they disappeared from the sputum. Senator found that the bacilli diminished in favorable cases, but in no instance disappeared altogether. Ebstein has seen no improvement either in the quantity or the quality of the sputum, and no diminution of bacilli. Mosler on several occasions noticed that the expectoration was bloodstained, but he did not see actual hæmoptysis. Weber says cough was improved in 14 cases, increased in 15, and remained *in statu quo* in the rest. The expectoration was diminished in 18, increased in 12, and unchanged in the remainder. Lichtheim says that in almost all cases after the subsidence of the reac-

TABLE I.—*Statistical Statement of the Action of Koch's Fluid in Tuberculosis of Internal Organs.*

DISEASES.	No. of Cases Treated.	Cured.	Substantially Improved.	Unimproved.	Died.
I.— <i>Pulmonary Tuberculosis:</i>					
1. Early pulmonary phthisis	242	9	72	59	93
(a) With laryngeal tuberculosis	30	0	10	6	13
(b) With tuberculosis of other internal organs	7	0	1	2	4
(c) With other diseases	9	0	0	1	6
2. Moderately advanced pulmonary phthisis	444	1	68	68	278
(a) With laryngeal tuberculosis	85	1	10	11	37
(b) With tuberculosis of other internal organs	15	0	1	4	5
(c) With other diseases	14	0	0	0	7
3. Very advanced pulmonary phthisis (cavities)	246	0	7	31	162
(a) With laryngeal tuberculosis	60	0	1	4	45
(b) With tuberculosis of other internal organs	24	0	1	2	17
(c) With other diseases	16	0	0	1	7
II.— <i>Pulmonary Tuberculosis (all grades taken together)</i>	932	10	147	158	533
(a) With laryngeal tuberculosis	175	1	21	21	95
(b) With tuberculosis of other internal organs	46	0	3	8	26
(c) With other diseases	38	0	0	2	20
III.— <i>Laryngeal Tuberculosis</i>	63	1	18	23	15
IV.— <i>Tuberculosis of other internal organs</i>	45	0	16	13	12
V.— <i>Pleurisy</i>	13	1	0	3	9
VI.— <i>Pernicious Anæmia</i>	1	0	0	0	1
VII.— <i>Tuberculosis Meningitis</i>	1	0	0	1	1
VIII.— <i>Peritoneal Tuberculosis</i>	14	1	3	4	2
IX.— <i>Intestinal Tuberculosis</i>	1	0	0	0	0
X.— <i>Renal Tuberculosis</i>	4	0	0	0	4
XI.— <i>Urethral and Vesical Tuberculosis</i>	10	0	0	4	5
XII.— <i>Tuberculosis of the Skin</i>	15	0	2	2	14
XIII.— <i>Double Tuberculous Pyosalphix</i> with incipient pulmonary phthisis	1	0	0	0	1
Totals	1,061*	13	171	194	586

* The difference between the total number of cases and the number in which the result of treatment is given is due to the fact that a few reporters give no information as to the result.

TABLE II.—*Statistical Statement of the Action of Koch's Fluid in External Tuberculosis.*

DISEASES.	No. of Cases Treated.	Cured.	Substantially Improved.	Unimproved.	Died.
I.— <i>Lupus</i>	188	0	78	84	21
II.— <i>Tuberculosis of Single Bones and Joints</i>	27	0	5	6	3
III.— <i>Tuberculosis of Several Bones and Joints</i>	397	0	51	119	211
IV.— <i>Tuberculosis of Lymph Glands</i>	48	0	1	4	22
V.— <i>Tuberculosis of Internal Organs</i>	40	0	3	12	23
VI.— <i>Tuberculosis of Soft Parts</i>	10	0	0	1	7
VII.— <i>Tuberculosis of Scars</i>	38	0	9	7	22
VIII.— <i>Scofuloderma</i>	8	0	1	0	7
IX.— <i>Leprosy</i>	2	0	1	1	0
X.— <i>Tuberculosis of the Skin</i>	2	0	0	1	1
XI.— <i>Tuberculosis of Sheaths of Tendons</i>	2	0	0	1	1
XII.— <i>Scrofulous Eczema</i>	2	0	0	1	0
XIII.— <i>Scrofulous Keratitis of Both Eyes</i>	2	0	2	0	0
XIV.— <i>Fav Disease</i>	16	0	2	1	6
With pulmonary tuberculosis	7	0	0	1	6
Totals	708	15	148	237	298

tion both cough and expectoration were lessened. In one case expectoration and the appearance of bacilli followed the commencement of the injection, and ceased on their discontinuance. Mannkopf noticed little or no

change in the quantity or quality of the expectoration. 3. Respiration: Gerhardt says that vital capacity increased in 5 out of 10 cases. 4. Physical signs: Gerhardt says that in many cases there was diminution of dulness and *râles*. Senator noticed in some favorable cases a complete disappearance of catarrhal signs and *râles*. Neither Ebstein nor Mannkopf observed any particular change in the physical signs. Fränzel says that after treatment had been continued for a certain time the *râles* almost disappeared in some cases. 5. Night sweats: Senator records the cessation of night sweats even in cases where before the treatment they had been considerable in amount. Weber says that in 11 cases the night-sweats diminished, while in 3 they increased. Lichtheim, Mannkopf, and Fränzel also say the injections had a good effect on night-sweats. 6. General condition: Gerhardt says that three patients felt so well that they insisted on leaving the hospital, though the physical signs showed that they were not cured. In 10 cases the treatment had to be discontinued by reason of weakness, persistent fever, or progressive loss of weight. Senator says the treatment had a favorable effect on the subjective feelings of a large number of patients; they looked better, and were stronger and more cheerful. Biermer, on the other hand, found that many patients complained that the treatment made them feel weaker and lower. Mosler notes an improvement in the appearance of patients. Weber says that the general condition became worse in 22 cases, while 33 patients expressed themselves as satisfied with the effects of the remedy.

Other Tuberculous Diseases.—The general results of the treatment in laryngeal phthisis, lupus, and other forms of tuberculous diseases will be seen in the table here appended, which is literally translated from pages 904, 905.

SOCIETY PROCEEDINGS.

St. Louis Medical Society.

Stated Meeting, Saturday, February 28, 1891.

THE PRESIDENT, L. BREMER, M.D., IN THE CHAIR.

[Abstracted for THE JOURNAL.]

TUBERCULOSIS (?) OF THE LIVER.

DR. GALE presented an abscessed portion of a liver taken from a boy 11 years old. An abscess had formed over the liver two years ago, and latterly a tumor had developed in the same situation. Syphiloma was excluded. Upon operating a tumor involving one-third of the right lobe was found, and which was removed. The temperature, which had previously been 101° constantly, regained the normal point after the operation, and the case (twelve days after) promised a good recovery.

Discussion was postponed pending a microscopical examination of the specimen.

ACUTE OTITIS MEDIA.

DR. BARCLAY reported a case of this disease where quinine had been ordered in large doses, with the effect of greatly increasing the patient's distress, and where relief was found by the almost constant application of cold water to the ear. The patient had himself applied the cold water from a well for two nights and one day.

DR. BREMER mentioned a case of death from probable meningitis as the outcome of a too severe syringing of the ear; and a case, also, of the same inflammation from a too severe syringing of the nose. He did not believe it a good or safe practice to inject a forcible stream into these cavities.

DR. WILLIAMS thought the President accused the syringe unjustly. He believed the ear syringe had been made to answer for a great many results it was in no wise accountable for. He had certainly used the syringe a great deal, yet had never seen encephalitis induced.

DR. F. J. LUTZ agreed with Dr. Williams, still an observation of two recent cases wherein meningitis followed closely upon the use of ear and nasal syringes, led him to believe that there might at times be danger in the unskilful and untimely use of these measures.

DR. LOEB did not think harm followed the reasonable use of the douche. Exaggerated cases, doubtless, there were. He advocated the spray instead of the douche.

DR. FUNKHOUSER reported an interesting case of inflammation of the ear, extending to the meninges and finally resulting in death, and in which the syringe was not used.

DR. GLASGOW reported a case very similar to that of Dr. Funkhouser, and in which a syringe had not been used.

DR. BARCLAY remarked that the ear syringe, like almost all other instruments of value in the physician's hands, might be used in such manner, and at such times, as to cause harm. Discretion and judgment were highly necessary. He mentioned a case where syringing had been resorted to three times daily for three months, for an abscess, yet when it was discontinued the abscess healed completely in three days. He believed that authorities discarded the syringe more and more as their experience became extended.

DR. BREMER said that he recognized the different results which would occur from the use of the instrument in the hands of the intelligent experienced, and the thoughtless inexperienced.

HYPNOTIZING A MEDICAL PROCEDURE.—In a recent discussion of the question: Should a person, who, not being a member of the medical profession, performs hypnotic experiments on another, be prosecuted for illegal practice of medicine? The Conference of Paris Advocates decided in the affirmative.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Sir James Crichton Brown on "Brain Rest"—B Naphthol and Salicylate of Bismuth as a Disinfectant in the Internal Treatment of Typhoid Fever—Results of Treatment with Dr. Koch's "Tuberculin"—The Consumption of Ether by the Irish—Miscellaneous Gleanings.

Sir James Crichton Brown, in his course of lectures recently delivered upon the subject of "Brain Rest," said that ordinary sleep grows deeper for the first hour and a half and then steadily diminishes until the slumberer awakens. Dr. Brown pleaded for eight hours for actively working brains, though ascetic notions have led many people to shorten the time, with the result that in certain cases it has been proved that the amount of sleep may be considerably reduced without injury. Literary men were apt to starve the brain in the matter of sleep, but some, nevertheless, had got on pretty well in spite of insomnia. Carlyle and Rossetti furnished instances. Dr. Brown quoted a letter from his friend Dr. Tyndall, who said: "For four weeks I have never had a single second of sleep, and during those nights I walked thousands of times round my room to no purpose. What astonishes me above all" (he adds) "is notwithstanding my nights' weariness my brain power does not appear to be sensibly impaired. After two or three hours' sleep I feel my brain as strong and clear as it ever was at any period of my life." It is, in Sir J. Crichton Brown's opinion, impossible to doubt that nutrition and repair must have gone on in the brain during periods of sleeplessness. The brain in short must, as he expressed it, "have learnt the trick of the heart and gone to sleep during the beats, or it must have slept in centres which were not active at the same time."

During the recent prevalence of typhoid fever various agents have been brought forward as disinfectants in the internal treatment of the disease. Several physicians consider naphthol to be superior to any other. There appears to be two kinds of naphthol, one which is more soluble and less toxic, but more irritant, is called A naphthol, the other less soluble, more toxic, but less irritant, is called B naphthol. It is to the latter that preference is given, it being associated with salicylate of bismuth, both being given in the form of powders or granules, in such a manner that the patient takes daily from fifteen to thirty grains of naphthol.

The news has arrived that the official reports from all the Prussian clinics and pathological institutes on the results of treatment with Dr. Koch's "tuberculin" have been published by the Ministry for Public Instruction. It appears that

the results were much better than was believed. From the middle of November to the end of December 2,172 persons received injections, the number of injections being more than 17,500. Of these patients 932 had tuberculosis of the lungs, 120 tuberculosis of other internal organs, and 700 external tuberculosis. Of those suffering from tuberculosis of the internal organs 13 were cured, 171 considerably improved, 194 improved, and 46 died. Of 708 patients suffering with external tuberculosis 15 were cured, 148 were considerably better, 237 better, and nine died.

There has lately been a great outcry concerning the consumption of ether by the Irish who have chosen it as an intoxicant, and in the House of Commons, in answer to a question by Dr. Tanner, Mr. Balfour said: "As stated by my right honorable friend the Chancellor of the Exchequer, in reply to a question addressed to him on December 1st, ether has been scheduled and it can now only be sold by qualified chemists or druggists as a poison." The statement laid before the executive government by Mr. Thomas Ledlie affords some idea as to the alarming proportions the habit had assumed. Mr. Ledlie calculates that seventeen thousand gallons of impure ether of the vilest form is annually consumed by the people in the districts situated in the counties of Derry and Tyrone, as well as parts of Armagh, Monaghan and Fermanagh, no fewer than 100,000 people spread over an infected area of 190,000 acres indulge in this baneful habit. He suggests six ways of getting rid of what he considers a baneful practice, the chief of which may be summarized as follows: The introduction of naphtha into the preparation of all ether, save that used purely for medicinal purposes, which would give it nauseating odor and taste, the reimposition of a prohibitive tax, and the making of the practice illegal and placing it upon the criminal code, as well as making the sale of ether illegal by all persons save chemists, and by this class of persons only for *bona fide* medicinal or commercial purposes.

At the Westminster Hospital there has recently been a death by asphyxia caused by exophthalmic goitre. The patient, a girl aged 20, had been under medical care for twelve months. In spite of treatment the goitre slowly increased until there were attacks of dyspnoea. Upon admission to the hospital asphyxia became imminent, and Mr. Spencer opened the trachea through the upper part of the tumor. The gland substance bulged greatly when the capsule was divided, and there was a large amount of hemorrhage. Upon opening the trachea no improvement in the breathing took place, nor was there upon the introduction of an ordinary tracheotomy tube. A vulcanite tube was then passed for four inches down the trachea, when air entered freely. For a time the dyspnoea was entirely relieved, but during the evening mucus collected below the

tube, this the patient was unable to cough up, and she died asphyxiated. The operator considered that this termination of such a case was extremely rare. Mr. Spencer thinks that some recent operations by which a cure had resulted after the removal of a great portion of the gland connected the pathology of the disease closely with the thyroid gland.

The Senate of the University of London has received communications from the Royal College of Physicians and Royal College of Surgeons to the effect that both these institutions had given their complete adherence to the scheme proposed for granting a medical degree to London students after going through a prescribed course of education and passing the required examination by a competent board, formed by representatives from the University and the two Royal Colleges. This will be an immense boon to the students of the London medical schools, who have hitherto been obliged to go in search of degrees bestowed by foreign or provincial universities.

At the recent meeting of the Pathological Society Dr. Rolleston showed a patella from a joint which had been for some years partially dislocated outwards. To the articular surface of the bone was apparently attached the internal semilunar cartilage. The internal semilunar cartilage being absent from its proper position. The cartilage attached to the patella was adherent to its periphery just in the way that the semilunar cartilages are to the tibia, there was the same space between the articular surface of the patella and what appeared to be the tibial surface of the internal semilunar cartilage as there is normally between the semilunar cartilages and the tibia. In the present case the cartilage was adherent for its whole depth to the patella at the upper part. The two extremities of what was apparently the internal semilunar cartilage were firmly united by a plate of cartilage the size of a shilling. This portion was underhung by a synovial pouch, as was the greater part of the body. This additional piece of cartilage lay to the inner side of the patella, consequently the supposed internal semilunar cartilage must have turned round before becoming adherent to the patella. The surface of the external condyle was eburnated and devoid of cartilage; the external semilunar cartilage was partially eroded. The internal condyle of the femur was covered with cartilage.

A special meeting of the Ophthalmological Society has brought forward a motion in the following terms: "That in view of the course of medical study extending over a period of five years, it is expedient that the Ophthalmological Society of the United Kingdom urge upon the General Medical Council the desirability for making the study of ophthalmic medicine and surgery a compulsory part of the ordinary curriculum."

Mr. Ernest Stanbury Hankin, the young Eng-

lish man of science who is said to have discovered at Berlin a "cure" for anthrax, had a very brilliant career as a student at St. Bartholomew's Hospital, where his singular aptitude for microscopical work and his general power for work made him one of the favorite pupils of Dr. Klein, the celebrated bacteriologist.

G. O. M.

DOMESTIC CORRESPONDENCE.

Dr. John P. Gray's Experience with Tuberculin.

To the Editor:—I have read with much interest the communication of Dr. von Ruck in a recent issue of THE JOURNAL, and desire to add my experience to his, as to the favorable results to be obtained from the proper use of "tuberculin." Returning from Berlin in the early part of January, I at once began the use of the lymph in the hospital here, and have had under treatment up to date twenty cases—of which three were lupus and the remainder pulmonary tuberculosis in the first and second stages. It is not my purpose in this article to go into a full report of these cases, reserving that for a later date, but to simply give the general results. In those patients suffering from lupus a steady improvement has been noticeable, the diseased tissue has gradually sloughed off, leaving a healthy cicatrix behind, so that in all three there seems to be a reasonable hope of permanent recovery.

Of the seventeen cases of phthisis two have recovered, or at least are well to the extent that they are up to their normal weight, have no cough, or expectoration, and the physical signs in the lungs are daily improving. Eight have improved markedly in that they have good appetites, have gained in flesh, and general strength, and the cough and expectoration have been greatly diminished. Three have improved slightly, in that the disease appears to have been checked. The remaining four have only been under treatment a short time, but two of these I hope will recover, or they are favorable cases and are improving rapidly.

As to the doctor's statement that "nowhere in this country or in Europe" a similar method of administering the lymph has been adopted, I can only say that from the first I have followed exactly the same course, beginning with a quarter or half a milligram, and gradually increasing the dose—never bringing on any violent general reactions, and never raising the amount while there was any effect to be observed from the injections. I also see from the *Wochenschrift* that the method has been adopted in some of the German hospitals.

Of course we have not had the climatic advantages that Asheville affords, and it has struck

me forcibly while observing the effects of the lymph treatment that if such good results could be obtained in the two worst months of the year, when the patients are more or less confined to the house, how much more might we hope for under favorable surroundings. Dr. Jacobi, in a recent article, hints that the future treatment for consumption will be a proper combination of climate and lymph, and feeling stronger that this is the case, I propose if possible to arrange for the treatment of a number of cases in the Adirondac region, where I am sure the percentage of cures can be greatly increased.

JOHN P. GRAY, M.D.

Utica, N. Y., March 29, 1891.

An American Medical Temperance Society.

To the Editor:—Several months since the undersigned received a communication from the Secretary of the British Medical Temperance Association, suggesting the formation of a similar organization in this country and the establishment of fraternal relations between them. The British Medical Temperance Association was organized in 1876, in London, with thirty members and Dr. Edmunds as President. It now embraces about five hundred members, with Dr. B. W. Richardson as President, and Dr. J. J. Ridge, Secretary. Among its members are many of the more eminent members of the profession in that country, and it has exerted a wide and most beneficial influence. The objects of the Association are declared to be "to advance the practice of total abstinence in and through the medical profession, to promote investigation as to the action of alcohol in health and disease, and to constitute a bond of union among medical abstainers scattered all over the country." . . . "It admits as members, registrable medical practitioners who are practical abstainers from all alcoholic liquors as beverages. It admits as associates, medical students who also practice total abstinence. Neither members nor associates are required, to sign any pledge, but if such, for any reason, cease to be total abstainers, it is expected that notice of withdrawal from the Association will forthwith be sent to the Secretary." The liberty of members in prescribing alcohol as a medicine is entirely uncontrolled. The formation and active maintenance of such an Association in this country would accomplish an amount of good not easily estimated; and if those members of the profession who would favor such a step, will send me their address on postal card, I will provide a time and place for a meeting in Washington during the week of the next annual meeting of the American Medical Association in that city.

N. S. DAVIS, M.D.

65 Randolph St., Chicago.

Medical Legislation in the State of Missouri.

To the Editor:—In THE JOURNAL of March 7 appears an item relative to medical legislation in the State of Missouri, to the effect that a bill was pending to compel all medical colleges in the State to adopt three courses of lectures as a condition for graduation. The bill was unanimously recommended for passage by the committees of both House and Senate. The House passed it by the gratifying vote of 85 ayes to 22 noes. The Senate voted against the bill. As the session closes in two days there is no time to work for reconsideration, hence this most necessary reform is defeated, to the shame of Missouri. What makes the fact all the more mortifying is the contemptible nature of the opposition, all of the colleges in the State (14 in number) but one—located in St. Louis—appearing in favor of the bill. The medical profession of the State, so far as evidence shows, being overwhelmingly favorable. Powerful outside pressure was brought to bear to influence the Senate unfavorably.

The history of the bill is most interesting and extremely instructive, now that the profession all over our Nation is so busy in medical reform. The Missouri State Board of Health last year promised, through its Secretary, to follow the grand example of the Illinois Board, and in the due exercise of its proper authority defines a college "in good standing" to be such a one only, as among other conditions, required three years attendance upon lectures and clinics. For reasons that would take too long to explain here, the Board this year declined to take this step, but formally referred the whole matter to the Legislature, then in session. The Medico-Chirurgical Society of St. Louis applauded the bill, on resolution, and appointed a committee of three to assist in securing its passage. This committee waited on both House and Senate committee. Only in the Senate committee was any opposition made, the Dean of the objecting St. Louis college appearing. The ostensible basis of the opposition consisted in these two arguments, which will probably have to be confronted in every State where substantial medical reform in education is attempted: *First*, to require three years' attendance would work a hardship on the "poor boy;" *secondly*, to discriminate among the colleges would be "class legislation," and therefore "unconstitutional." The "poor boy" argument was vigorously worked and ingeniously applied. Among well-informed people these arguments may excite a smile, but that they should seriously be advanced and be ostensibly accepted by the Senate of a great State as sufficient ground to defeat so important a measure—what shall be said! Certainly, here is no smiling matter; particularly as this defeat will affect great interests outside Missouri. The Medico Chirurgical Society regarded

the adoption of the reform as likely to strengthen the noble work of Illinois in that direction. Also, many of the Southern States and South-western might be led by this example to enact similar desirable laws; and thus the grand advance in medical education so imperatively demanded and so long agitated all over the Union, would be accomplished.

It is a fact that there is an element in Missouri sympathizing with the malcontents in Illinois, that openly declares that the Illinois State Board of Health will be broken down in its reform measures. Our neighbors need to be on guard so long as its Legislature sits, lest some hostile bill be slipped through in disguise, or in the rack of measures blindly rushed along in the last days of the session.

I should state that great efforts were made to carry our bill. Members of the Legislature were written to by doctors from all over the State. One Senator assured me that his pockets were full of such letters, but that he did not always vote as his constituents desired; that, in fact, he thought people ought to be at liberty to employ just such service as they wanted, that he had obtained a license to practice law simply because an oppressive statute compelled him to do so, not that he thought such restrictions necessary. Another solon with considerable violence declared that for his part he would rather employ a doctor who had never been inside a medical college; I judged this contemner of mundane illumination believed with the immortal Dogberry, that reading and writing came by nature. Still another of the *Patres Conscripti* thought the bill favored caste in society, and having been born under the British monarchy, like a sound convert to republicanism, the very sniff of such servitude was abomination of abominations.

But enough of such experiences, so mortifying to a native Missourian; it is a comfort to know that the prime mischief worker is not even a Westerner by birth. I will close by saying that the friends of the bill summed up their argument in this: A jury of intelligent physicians from any part of the civilized world will not hesitate to declare that it is *impossible* to give the most capable student an education fitting him to practice medicine, under three years' attendance upon lectures and clinics.

In the Senate committee it was protested that it was with a sense of shame that we set the limit at three years. In Enrope, even in Mexico, which country requires six years, no period less than four years is recognized. No wonder American diplomas—that is an injustice to South America and Canada—no wonder diplomas from the United States are regarded as contemptible in Europe.

I sincerely trust that THE JOURNAL will make these facts known all over the Union. The Leg-

islature has not fairly dealt with its people, so that Missouri need not bear the burden of shame; the near future will put that where it shall stick.

CHAS. A. TODD, M.D.,

Of the Committee of the St. Louis Med.-Chir. Society.

That "Remarkable Case,"

To the Editor:—I cannot help thinking that there must be an element of deception in the very remarkable case reported by Dr. Galbraith in your last issue. Apart from the inherent improbability of the extremely high temperatures noted, it seems to me a physical impossibility, so long as the circulation of the blood is maintained, that the temperature in the axilla should be 20 degrees higher than in the mouth. A temperature of 171°, or even 151° F., can only be borne by the finger for a very brief time without severe pain, and I think it may be set down as certain, that with a temperature approaching even the lower of these points, the vapor of the breath would form a cloud, in a room at the ordinary temperature, as that of a healthy person does on a cold day. I would suggest, in case of opportunity for further observations of the sort, that the temperature be taken in the rectum, under close observation. If the case were my own I should be satisfied that if the thermometer registered higher either in the mouth or axilla than in the rectum, there was fraud somewhere, whether I could detect the manner of it or not.

In *The Lancet* (January, 1882, p. 35, American ed.), Dr. Mahomed reports a case, apparently somewhat similar, that came under his observation at Guy's Hospital. The patient, a woman, aged 22, suffering from phthisis, was repeatedly found to give readings of the thermometer ranging from 112 to 120°, and, in one instance, as high as 128° F. Although, with careful observation, he was never able to detect the way in which they were produced, he was satisfied that they were fraudulent, for the following reasons. When observations were made on several different parts at once, there were great differences in the temperatures recorded by the different thermometers. Surface thermometers gave only ordinary temperatures; neither the skin of the axilla nor the bulb of the thermometer on removal felt extraordinarily hot at times when high readings were obtained. No unusual temperatures were ever obtained by non-registering thermometers, although they were often used.

In the same volume of the *The Lancet*, p. 78, is an account by Dr. Stephen Mackenzie of the case of a woman who was under his care for an inflamed condition of the stump of an amputated thigh, who gave abnormally high temperatures on repeated occasions, the highest being 133.6°. This never occurred while she was closely watched, and she afterwards admitted that she

had produced the high temperatures by means of poultices, hot bottles, etc. Such means can, of course, be excluded in Dr. Galbraith's case, of which, I hope that he will let us know the final outcome.

W. L. WORCESTER, M.D.

State Lunatic Asylum, Little Rock, Ark., Mar. 23, 1891.

Has Omaha Found Munchausen's Mantle?

To the Editor:—The extraordinary case reported by Dr. Galbraith, of Omaha, in which the temperature of a lady with a slow pulse rose at times to 151° F., requiring the construction of new thermometers to register the phenomenon, scores another point for science. The average layman would doubtless flout such a story as ridiculous. He'd vow the doctor had conjured up this "whopper" only to see how great fools we mortals be, who should believe it. But in scientific matters of a medical nature, laymen don't know. In the presence of a wonder like this, they'd do like the old Dutch emigrant who chanced to go to a hot spring for water as he was about to camp for the night. When the hot water splashed up on his hands, he dropped the bucket in great fright and cried out to his son: "Trive on, Hans. Hell ish not far from dish blace!" But it is the province of science to account for the wonderful.

No doubt this case, if properly handled—and the doctor seems to be the man to do it—will yet reach the boiling point. We have heard of people's blood boiling, and if voiding 1,000 dead bones would not make one's blood boil, why pray what could? Of course it requires the mental breadth of high professional achievement to take such marvels in.

The case is the reverse of Longfellow's "Excelsior." Dr. Holland said of it that it sounded like the truth but it was a lie. This, on the other hand, sounds like a lie, but it's the truth; not a bit of doubt about it. Perhaps some doubting medical Thomases will even ridicule this humble attempt at the Doctor's defense. No matter. Let the heathen rage and the women hiss. Science will be vindicated in the end. A medical book agent once approached a neighbor of mine to sell him the latest thing out in surgery. "No," said the Doctor, "I've no time to read it. I already have 10,000 volumes in my medical library, and besides I have to ride twelve miles every day to catheterize a lady from whose bladder I draw ten gallons of water every twenty-four hours." The agent was a layman. He couldn't understand it. He was dumbfounded at the Doctor's solemn asseveration of a scientific fact, and pronounced him "the monumental liar of America." The Doctor not having a string of titles to his name, the agent thought he had no license to lie like that. But the ignorant fellow simply didn't know. That's one great advantage the trained

physician has. He can take in the most astonishing revelations of science without wincing.

JAMES L. TAYLOR, M.D.

Wheelersburg, Ohio.

ASSOCIATION NEWS.

American Medical Association.

THE COPYRIGHTING OF THE PROGRAMME. The attention of the Committees having charge of the compiling and printing of the Official Programme is called to the following resolutions unanimously adopted at the Nashville meeting:

WHEREAS, Certain parties without authority are presuming to make use of this Association for the furtherance of advertising interests, therefore

Resolved, That at all future meetings of the Association such publications be excluded from the place of meeting either of the General Sessions or of its Sections.

Resolved, That in the future each Chairman of the Committee of Arrangements be directed to procure a copyright of the Official Programme, to the end that the financial rights of the Association may be protected by due process of law.

RAILROAD ARRANGEMENTS.—Full particulars of the Railroad Arrangements for the Annual Meeting at Washington will be published in our next issue.

NOTICE TO SECRETARIES OF SECTIONS.—The programme should be in hand one week before the meeting of the Association. It will be impossible to print correctly a list of addresses and papers received after that date. Secretaries of Sections will insure accuracy in the programme, and greatly facilitate the work of the Committee by sending their lists in time.

C. H. A. KLEINSCHMIDT, M.D.

Secretary Com. Arrangements.

We desire to emphasize the request of Secretary Kleinschmidt for the early completion of the programmes of the various Sections, and hope to present the Preliminary Programme in *THE JOURNAL* before the meeting. The Official Programme will be issued promptly by the Committee of Arrangements. We are grateful to know that such efficient action has been taken by the officers of the Sections, and the prospect now is that the next annual meeting will exceed in interest any that have preceded it.—Ed.

BOOK REVIEWS.

AUSCULTATION AND PERCUSSION. By FREDERICK C. SHATTUCK, M.D., etc. Detroit, Mich.: Geo. S. Davis. 1890. Pp. 121.

This is the concluding number of Series IV of the Physician's Leisure Library.

The work opens with seven diagrammatic plates which, were it not for the confusing numbers and letters with long "fingers" to denote their intention, would enhance the value of the text in no slight degree. A physician's life is generally made up of too few hours, and he can therefore ill-afford the struggle of deciphering no less than seventeen tracings or references on a single plate of small size. It will be seen that the placing of such requirement in a "Leisure" library is smilingly significant.

The text is orthodox, dealing first with the lungs, where 56 pages are devoted to a clear and concise statement of the physical signs in health and disease. Then follows Part II—heart and aorta—the concluding chapter of which, however, touches upon physical exploration of the liver, spleen, stomach, and pancreas. Altogether this little manual will find a place of some value.

A GUIDE TO THE PRACTICAL EXAMINATION OF URINE. For the use of physicians and students. By JAMES TYSON, M.D., etc. Seventh edition. Revised and corrected. With a colored plate and wood engravings. Philadelphia, P. Blakiston, Son & Co. 1891. Pp. 255.

No important change has been made in issuing a new edition of this handy little volume. The general arrangement and plan of the work makes it a ready guide for the student, as well as enabling a quick reference for the busy practitioner.

Prof. Tyson still holds—and we do not know but wisely—to the superior reliability of the time-honored "heat" test for albumen. In the light of claims—which are not without well-accepted authority—put forth from time to time of late years, we were prepared to see their advocacy or adoption; but in language not to be misunderstood the author treats the claims honestly, and as honestly expresses his thorough satisfaction with those tests which in his hands have left but little more to be desired.

SPECIAL CORRESPONDENCE.

Shall The Journal be Removed to Washington?

WHAT OUR ADVERTISING PATRONS HAVE TO SAY ON THE REMOVAL QUESTION.

To the Editor:—Permit me to request the insertion in THE JOURNAL of the accompanying circular and blank sent out to our advertising patrons, with their replies thereto in tabulated form. My reason for seeking space in your columns is the desire that the members of the Association may be fully informed as to how business men, who contribute nearly one-half the income of THE JOURNAL, look upon the proposition to remove it to Washington. Though the majority of our advertisers are not members of the Association, still their opinion, coming as it does from practical business men having a financial interest in its success, should have weight in the settlement of this question.

Some members may look with disfavor upon this method of gauging the business future of THE JOURNAL, to such I would say, most respectfully, that when the advertising interests of THE JOURNAL were confided to my care I found them very low, but by persistent and systematic work have increased the receipts from that source three hundred per cent. This statement is made to bring out the point that the bulk of this increase is due to having proved to the satisfaction of advertisers that THE JOURNAL is THE profitable medical advertising medium of the West.

It was therefore desirable to obtain their views in the premises, and after obtaining them to submit them to the members of the Association as detailed in the table on pages 536-7, which shows that 15 voted for Washington, representing 13 per cent. of the cash receipts from advertising for the financial year just closed; 45 for Chicago, and a few not voting. J. HARRISON WHITE, Business Manager.

Office of THE JOURNAL,
68 Wabash ave., Chicago.

Dear Sir:—Some members of the Association are desirous of making Washington the permanent home of THE JOURNAL, and the question is to come before the members at their annual meeting next May. Being of the opinion that the advertising patrons, who contribute so largely towards its financial success, should have an opportunity of expressing their views on the matter I ask you to consider the question in all its bearings, and give me your reply at an early date. Very truly yours, J. HARRISON WHITE, Business Manager.

Chicago, January 2, 1891.

PLEASE FILL OUT BLANKS AND RETURN IN ENCLOSED ENVELOPE.

Do you favor the removal of the Journal of the American Medical Association from Chicago to Washington?
Would you consider the Journal of the same value to you as an advertising medium if located in Washington?
Remarks
Signed

To the Editor:—The question of the removal of THE JOURNAL from Chicago to Washington, which is now being discussed by many physicians in every part of the United States, is, to my mind, clearly opposed by a large majority of the members of the Association—and I, for one, say, Let it remain where it is, a place which is approved of by the great majority, as I firmly believe.

B. S. WOODWORTH, A.M., M.D.

Fort Wayne, Ind., March 28, 1891.

To the Editor:—Except as I desire to see THE JOURNAL represent the best thought and the highest standard of the American medical profession, I am in no way interested in its place of publication nor in who edits it.

I do not know the origin of the agitation to take THE JOURNAL to Washington, but I surmise that it arose out of a feeling that some change was desirable.

I do not know how much editing the present editors feel justified in performing, nor exactly what is meant by the term "supervising editor" employed by Dr. Reed in his communication in THE JOURNAL of March 28, but certainly the "supervision" has been somewhat lax. Doctors are not always good writers, I have no reference to the old illegible prescription story. I mean that they do not always pay much attention to the rules of grammar or composition. And even those who have a message of importance to communicate, are not by any means direct and certain in their statements.

My impression of editorial duty extends beyond writing leaders, and making up the contents of a number of THE JOURNAL, and until the editors feel warranted in rigidly enforcing the ordinary and reasonable rules of composition, and either editing or rejecting all communications which make both writer and JOURNAL ridiculous, there will continue to be dissatisfaction, whether THE JOURNAL is published in Chicago or Washington.

Dr. Reed's comparisons are very lame. Apply his remark about employing a practical physician or surgeon. Does any one for a moment suppose that if Dr. Reed

WHAT THE ADVERTISERS SAY ABOUT IT.

NAMES AND ADDRESSES OF ADVERTISERS.	For Removal Against Removal	REMARKS.
Antikamnia Chemical Co., St. Louis, Mo.	1	In our opinion a journal located in an active business centre is more in touch with business necessities, and quicker to respond to new ideas, than others even though they may be more esthetically located under the ægis of the Capitol.
Armour & Co., Chicago.	1	We are not deeply interested in the question.
Baker, Charles S. & Co., Chicago.	1	
Baltimore College Physicians and Surg., Baltimore, Md.	1	We wish the Journal continued and increased success.
Battle & Co., St. Louis, Mo.	1	Washington is a political centre and not a business centre.
Bernd, Henry & Co., St. Louis, Mo.	1	To any other Western city, "Yes." We do not favor anything that will take prestige away from the West. We do not see why Washington is any better than any other city. From a commercial standpoint it is the poorest city in the U. S.
Blakely, C. H. & Co., Chicago.	1	
Brown, Drs. Geo. & Geo. A., Barre, Mass.	1	No. Would not be of same value to us.
Caldwell, Frank H., Sanford, Fla.	1	
Canton Surgical and Dental Chair Co., Canton, O.	1	We consider Chicago the most desirable place in the U. S.
Chaim, Adolph, Chicago.	1	
Chauning, Dr. Walter, Brookline, Mass.	1	Yes.
Chicago Medical College, Chicago.	1	Dr. John E. Owens, Chairman of Adv. Com., objects to the removal.
College of Phys. and Surgeons, Chicago.	1	Dr. D. A. K. Steele, secretary, writes: In reply to your note of inquiry regarding the desire of some members of the Association to make Washington the permanent home of the Journal, I would state that it is my opinion, as one of the advertising patrons of the Journal, that its removal to Washington from Chicago would be a mistake. I am decidedly in favor of its continuation here.
Cooke, George F., M.D., Oxford, O.	1	No. Would not be of same value to me as an advertising medium.
Crittendon, C. N., New York City.	1	We deem it quite undesirable for your publication to remove to Washington, D. C., as it would, in our judgment, lose its prestige, owing to the competition it would be obliged to meet from other medical journals.
Cincinnati Sanitarium, College Hill, O.	1	Dr. Orpheus Everts, Supt., writes: I see no sufficient reason for removing the Journal from Chicago, and if it is to be moved should not favor Washington as its permanent home.
Codman & Shurtleff, Boston, Mass.	1	Decidedly No! We think it much better that the Journal should remain where it is, as we value it for its present large circulation, which would be necessarily lessened if the proposed removal were effected.
Dauchy & Co. (Liebig Ext. of Beef), New York City.	1	Our opinion is decidedly adverse to the removal of your paper from a great business centre like Chicago to the city of Washington. We do not see how it is possible for the paper, if published from the latter point, to exert as immediate an influence on business men as if it issued from Chicago.
Detroit Coll. of Medicine, Detroit, Mich.	1	No. Would not be of same value as an advertising medium.
Drevet Mann'g Co., New York City.	1	Your journal has been giving us unsatisfactory returns, and we feel confident that its removal to Washington may increase the number of your subscribers.
Fredigke, Dr. Charles, Chicago.	1	
Garden City Bindery, Chicago.	1	No value to us if removed.
Gardner, R. W., New York City.	1	Yes.
Gray, J. Lucius, M.D., Chicago.	1	The present headquarters of the Journal on geographical, scientific and editorial grounds cannot be improved upon, in my judgment.
Gorges, Mrs. J. A., Rogers Park, Ill.	1	Yes.
Hance Bros. & White, Philadelphia.	1	From the point of view of my customers, the Journal would not derive any advantage from being located in Washington that it does not possess in Chicago, while Chicago in a business way offers greater facilities than Washington.
Haldenstein, I. (Apollinaris Co.), New York City.	1	No! In letters almost an inch in depth.
Horlick's Food Co., Racine, Wis.	1	We can see no objection to Chicago, but if a change seems necessary, why Washington is neutral ground, and should satisfy everybody. However, the present tendency seems to be for all roads to lead to Chicago.
Imperial Granum Co., New Haven, Conn.	1	I am quite confident that the business interests of the Journal would suffer loss by the proposed change.
Keener, W. T., Chicago.	1	Yes.
Kirkley, C. A., M.D., Toledo, O.	1	
Lagorio, Dr. A., Chicago.	1	
Lambert Pharmacal Co., St. Louis, Mo.	1	New York, Philadelphia, St. Louis, Boston, Baltimore and Cincinnati support weekly medical journals. Evidently the Association Journal must answer the purpose of a weekly for our second largest city. In giving up this requisite you offer an excellent opportunity for the establishment of a weekly medical journal as a business enterprise, and force the Association Journal into more direct competition with the great medical weeklies of the East. In our opinion it will suffer severely by the change.
Levitype Co., Chicago.	1	
Madson, William, Chicago.	1	
Magruder, G. L., Dean Georgetown University, Washington, D. C.	1	
Marcy, Henry O., M.D., Boston, Mass.	1	No. (See his letter as a member in the Journal of January 31.)
Mattison, J. B., M.D., New York City.	1	Yes. Most heartily favor the change. It is a National journal, and should be published at the National centre.
Mauzy & Mitchell, Memphis, Tenn.	1	No. Would not consider it of the same value to us as an advertising medium if removed to Washington.
Med. Dep't Columbian University, Washington, D. C.	1	To the first question, yes. To the second, not necessarily the same, but as good, or perhaps better. The Journal should be central, National, and weaned from all local interests.
Med. Dep't University of Michigan, Ann Arbor, Mich.	1	Dr. W. A. Campbell, Sec'y, writes: From the standpoint of an advertiser, and for our use, I consider Chicago the best location for the Journal.
Millard, P. H., M.D., Minneapolis, Minn.	1	Dr. P. H. Millard, Dean Med. Dep't Univ. of Minnesota, writes: The removal of the Journal will forfeit our entire patronage.
Movius, J. & Son, New York City.	1	No.
McIntosh Battery and Opt. Co., Chicago.	1	No. Dr. McIntosh verbally stated that they would stop their advertisement if the Journal is removed from Chicago.
New Table Co., St. Louis, Mich.	1	No. Chicago is the second great business centre of the U. S., and in twenty years will be the first in importance. Washington will not be anything but the political quasi centre.
Parrish, Wm. G., M.D., Burlington, N. J.	1	It appears to me that the Journal would have the same circulation through the West, where it is well known, if at Washington as a headquarters, and would gain still more East and South by the change, in subscribers and advertisers.

NAMES AND ADDRESSES OF ADVERTISERS.	For Removal or Removal	WHAT THE ADVERTISERS SAY ABOUT IT
Farke, Davis & Co., Detroit, Mich.	1	We are satisfied as it is. The management of the Journal of the A. M. A., as located in Chicago, is convenient to us at Detroit, and it being assumed that the Journal has a large local circulation in the West incidental to its publication in that section of the country, we believe that it exercises a more satisfactory influence for Western advertisers than would be the case if located East.
Peacock Chemical Co., St. Louis, Mo.	1	We believe the Journal would wield the same influence from either point, but consider the present location and management hard to improve upon.
Phillips (C. H.) Chemical Co., New York City.	1	Do not favor removal. Would not be so valuable to us as an advertising medium.
Post-Graduate Med. School, Chicago.	1	Dr. W. Franklin Coleman, the Secretary, writes: The East is well supplied already with our kly Journals. The P.-G. Med. School desires to come in contact, through advertising, with Western physicians. The removal of the Journal to Washington would lessen our interest, and I think that of the Western physicians, in it.
Rio Chemical Co., St. Louis, Mo.	1	We do not think the removal of the Journal to Washington would make any material difference.
Robinson-Pettit Co., Louisville, Ky.	1	We would say that in our opinion Chicago is a better point for issuing the Journal than Washington would be, on account of its central location.
Ruebsam, John E., Washington, D. C.	1	I favor the removal. The Association will grow with the Nation's Capital.
Rush Medical College, Chicago.	1	Dr. J. H. Etheridge, Sec'y, writes: Am indifferent. It would be very interesting to enquire what criticism of the local directory of the Journal has led up to this move. Perhaps there is something written between the lines that would be interesting.
Sander & Son, Dillon, Iowa.	1	We favor such a move as the right step at the time in the right direction.
Schieffelin, W. H. & Co., New York City.	1	We believe the Journal to be a good medium for advertising, and can express no preference as to the location of its office of publication.
Scott & Bowne, New York City.	1	We desire to say that the location of your Journal in Chicago is very much more to our interest and advantage than it would be located in Washington. As we are well represented in Eastern Journals, we do not think we would care to advertise in it if you changed to that city.
Sharp & Dohme, Baltimore, Md.	1	We are in favor of transferring the permanent home of the Journal to Washington.
Sharp & Smith, Chicago.	1	No. We would not advertise in the Journal if same was located in the East.
Smith, Bradner & Co., Chicago.	1	Dr. H. H. Mudd, Dean, opposes removal and considers the Journal would not be of the same value as an advertising medium.
St. Louis Med. College, St. Louis, Mo.	1	Since the Journal is a National affair, it should be located centrally. Next to St. Louis, we prefer Chicago. If we have a voice in the matter we must proclaim for the West.
Sultan Drug Co., St. Louis, Mo.	1	Yes.
Tarrant & Co., New York City.	1	(See Dr. Crothers' letters in the Journal of January 31 and March 21.)
Tydale Eclectic Co., Chicago.	1	The circulation and the quality of a medical journal are the questions of most importance to the advertiser. Your Association being a National one, it is quite proper, we should venture to say that the Journal should be published in Washington.
Walnut Lodge Hospital, Hartford, Conn.	1	Every advertiser will admit that there are too many medical journals. About three-fourths of them are located East of Indiana and North of Washington. Do not aggravate matters. Stay where you are. There you are the leading weekly medical journal. Here you will have to take fourth or fifth place.
Warner, Wm. R. & Co., Philadelphia.	1	
Woodruff, I. D. & Co., New York City.	1	

wanted a journal of real literary and scientific merit published he would employ as editor any one merely because he was a practical physician, if he were not satisfied that his practical physician knew when a sentence had a predicate and had the courage to put one in when it was necessary in Dr. Blank's very good "practical" article on pneumonia, or to take out the double negative from Dr. J. Doe's otherwise readable article on fractured patella?

I am not questioning for a moment the ability of the present editorial staff, but I have often, in reading THE JOURNAL, queried whether the "intelligent compositor" or "vigilant proof-reader," or the—shall I say timid—editor was responsible for some of the assaults upon our mother tongue which so often appear in the pages of THE JOURNAL.

As the voters who have voted through THE JOURNAL appear to be nearly all of one mind, let us hear from them and others as to how much editorial cutting and mending they are willing their manuscripts, correspondence as well as contributions to the scientific papers, shall undergo before being sent to the printer.

If the Association will sustain the editors and the editors will fearlessly edit the articles before sending them to the printer, I think there will be a steady increase in the value and reputation of THE JOURNAL.

We may not, like one of our law-makers, "care much for abroad," but I have reason to know that THE JOURNAL, through some of its articles, has not reflected much credit upon the literary ability of the profession.

E. N. BRUSH, M.D.

Philadelphia, March 30, 1891.

me on time and is chock full of the very best medical literature. I prefer to let well enough alone.

D. A. WALKER, M.D.

Friendship, Tenn., March 31, 1891.

To the Editor:—It is immaterial to me where THE JOURNAL is published, provided it is conducted exclusively in the interests of scientific medicine and the greatest good of the profession. That it does not fully meet the requirements of either now is a source of dissatisfaction, and creates a desire for change in the minds of many members of the Association. But, if these deficiencies can be corrected without removal, it is better to allow it to remain in Chicago, for the present at least, to try. Believing that it can be thus improved and brought up to the ideal standard where it is, and disclaiming all carping criticism, I offer suggestively the following to that desirable end.

1. In the first place, then, THE JOURNAL should be printed on plain and not on glazed paper, which from its reflection, dazzles the eye, irritates the optic nerves, muscles and lobes, brain and mind, and sympathetically other parts of the system, thus impairing the sight, causing eye-strain with spasm and twitching of muscles, ocular and cerebral hyperemia, dizziness, headache, neuralgia, melancholy, petulance, irascibility, and other disorders of the physical, mental and moral nature, more or less serious. It is thus a serious obstruction to the acquisition of knowledge and preservation of health of the whole being, body and soul, which should be discarded as dangerously insanitary and wholly unscientific, especially discreditable in a publication under the auspices of physicians, the special exponents thereof. Besides, it is not only antagonistic to the well-being of mankind, but also to commercial success, for no sensitive, or enlightened person will

To the Editor:—I know of no reason why THE JOURNAL should be moved from Chicago. It always reaches

even willingly read, except occasionally and for brief periods, much less subscribe for such a glaring sight and health-destroying publication, no matter how cheap or meritorious it may be. This evil can and should be speedily rectified by substituting plain for glazed paper, not only in *THE JOURNAL*, but all other publications, and people should protect themselves by tabooing all printed matter on glazed paper in the interests of good sight, good health, of body and mind, good temper and morals, education, enlightenment, development and civilization.

2. While *THE JOURNAL* should stimulate original research, and uphold American medicine especially, it should not be provincial or subservient to foreign ideas, but as cosmopolitan as medicine itself, truth being universal, teaching, developing and culting it from all sources, with a due regard to the philosophy as well as the art of medicine, for the highest educational purposes, and to enlighten the concrete with the abstract knowledge of truth, so that principles and practice, science and art shall go together, as they are mutually essential to the perfect development of medicine. The prevention and treatment of every disease is a problem to be solved in accordance with mathematical, logical and scientific principles, as a guide to insure the greatest certainty and success in both. Hence empiricism can only be employed with advantage in so far as it is necessary for disclosing, testing and determining the truth. Thus enlightened empiricism or rational experiment inductively leads to the advance of the science, and deductively promotes the philosophy of medicine (which, by the way, should be the crowning part of the curriculum of every medical college), while blind empiricism is merely chalice experiment and arrant quackery. Secrecy and assertion with wild, haphazard or irrational experimentation are unscientific, and involve in confusion, doubt, disappointment, disaster and death.¹ Thus accurate observation, experiment and experience, guided by reason, aided by judgment, leads directly to a knowledge of the truth in medicine as in everything else, and it is the mission of *THE JOURNAL* to present this in the most definite, condensed and available form with as little erroneous or extraneous matter as possible, so as to educate and enlighten the profession to the fullest extent.

3. The department of notes and news should be as brief, impersonal, professional and general as possible, noticing only subjects of immediate practical interest to physicians everywhere, and omitting as "flat, stale and unprofitable" all tending to promote personal, local, or extraneous interests of any kind, for it is merely gratuitously advertising them, and concerns few beyond those mentioned. The space thus occupied and wasted should be utilized with useful medical ideas of import to practitioners in general as contributing to the relief of the afflicted and suffering, and desirable to those trying to solve the problems of health and disease, life and death, everywhere throughout the world.

4. As the representative of the American Medical Association and scientific medicine *THE JOURNAL* should avoid any encouragement to empiricism or quackery, domestic or foreign, and rigidly exclude from its advertising as well as reading pages all articles relating thereto in every shape and form, especially secret and proprietary agents of polypharmaceutical and physiologically incompatible admixtures or hodge podge of drugs, under fanciful and misleading names, or some ingredient thereof without the full formula, or otherwise concealed so that physicians cannot fully know their constituents and determine accurately their doses and uses, independent of the prejudiced and often erroneous statements of their makers and vendors. *THE JOURNAL* is not the organ of any one person, institution, clique, trade, local or extraneous interest whatsoever, but of the Association or profession in general, and it should not be the medium

of advertising nostrums, or secret, disguised, and quack preparations of any kind. We rightly denounce the religious and secular press therefore, yet inconsistently allow our own professional organ to be used for the same base purpose for a little pelf, thus degrading it, ourselves, our profession, and medical science. Of course, all persons, physicians included, are justly entitled to a due recompense for their discoveries in medicine as in everything else whenever made known, but secrecy and deception therein is opposed to progress and should not be tolerated, by physicians at least, as they prevent those who are induced to use them from comprehending their nature, acquiring correct knowledge, and intelligently performing their duties to their patients, while giving false ideas and experience detrimental instead of beneficial to those most concerned. Hence the evils therefrom are manifold in being fraudulent and injurious throughout, for besides the immediate pecuniary loss, there is often direct harm or failure to promote the welfare of the sick and suffering with humanity in general, as well as detrimental to medical science. While life is based upon reciprocity, it is only in the domestic circle that it is of a more purely personal nature, for outside of that it must necessarily be more exclusively of a commercial character, though insensibly it merges throughout into free efforts for the relief of the helpless and unfortunate, yet it is only those favored with a surplus of health and wealth who can afford to work gratuitously for the good of mankind. But many are so selfish as to have no feeling for their fellows, as they will work and starve them to death, and even rob the sick and afflicted for self-aggrandizement. Such are like sponges that absorb everything they can, and give out nothing but what they cannot hold and what is squeezed out of them. These greedy sharks would monopolize everything and leave others to suffer and perish, they must, therefore, be actively antagonized to restrain their cruel propensities, especially in the case of empirics, nostrum-makers and quacks of every kind, to oppose and afford them as little opportunity as possible to rob the sick and thrive on the ignorance, suffering, and misfortunes of others, particularly by refusing to aid them in their nefarious schemes to disseminate a knowledge and promote the use of their empirical preparations under the sanction of medical journals and physicians, who thus become accessories to all the evils therefrom. Besides, the tendency of this pernicious practice and support of charlatry is to degrade the profession itself and reduce physicians to mere medical mechanics, not to be thinkers and leaders, but dependents and servants, to follow the directions of empirics, nostrum-makers and traders. Hence *THE JOURNAL* should be kept free from all such objectionable matter and cease to be an agent of evil, for which the members of the Association are responsible, and should it not be so improved where it is, then it would be better to remove it to Washington or some other place where it could attain the ideal National, professional and representative character, exempt from all such obnoxious business, quackish, and other degrading influences.

5. Finally, *THE JOURNAL* should be under stricter medical supervision throughout all its pages of reading and advertising alike, inculcating therein most fully and purely the principles and practice of scientific medicine, both preventative and curative, refusing to pandor to empirical, personal, clique, local, trade, nostrum, quack or extraneous interests of any kind, so as to insure the greatest progress and highest development of rational medicine. It would thus become a shining exponent of the science and philosophy of medicine and leader of professional knowledge, not only a creditable organ of the American Medical Association, and a source of enlightenment and pride to each member thereof, but to every physician of this country and abroad, as its beneficent influence would extend indefinitely throughout the world.

GEO. J. ZIEGLER, M.D.

Philadelphia, April 2, 1891.

¹ Here follows a criticism of the "Koch occult lymph" which on account of its length, and being foreign to the subject under discussion, is omitted.

Editorial Opinions of the Medical Press.

A question at present agitating the American Medical Association is whether The Journal shall be removed from Chicago, its present place of publication, to Washington, D. C. The subject has just now been brought into prominence through a special meeting of the Trustees of the Association, held at Washington, D. C., November 13, 1890. This meeting was called by the President, Dr. Hooper, of Little Rock, Ark., upon a requisition signed by a majority of the Board, for the special purpose of considering the question, upon which a special committee had been appointed. The following report was then received and adopted:

Resolved, That the sense of the Committee be that the home of The Journal of the Association should be permanently at Washington, D. C.

Resolved, That the Trustees incorporate the foregoing resolution in their report to be presented at the next meeting of the Association.

The following resolution was also adopted.

Resolved, That the Trustees recommend the members of the Association, of the various State and local medical societies in affiliation with the Association, to contribute or subscribe funds for the erection of a permanent building as a place of meeting, as well as a library and office for the American Medical Association.

The immediate result of this action, and its subsequent publication in The Journal, has been a very animated discussion, into which considerable heat and not a little personal feeling seems to have been injected. This is exceedingly unfortunate. The question is not in the least a sectional one, and should have no possible personality involved, but must be considered on the broader basis of the welfare of The Journal, and, therefore, of the Association, and it is from this standpoint that we shall discuss it. We shall assume, as we believe, that the committee making the recommendation did so under the conviction that it was "for the best interests of all concerned," and in seeking a reason for this action find the second resolution, that really seems to be the key to the situation. The proposition to establish a home for the Association is not new; it emanates from the same sentiment that would hold every second meeting at the National Capital. The establishment of a permanent home in Washington, with annual meetings in that city, logically carries with it the removal of The Journal to headquarters. We do not believe for a moment that this scheme will ever be carried out, or that the Association will deliberately adopt a suicidal policy. The American Medical Association must be of the whole United States; it must be thoroughly National; with its loose and defective organization a tendency to centralization would be fatal to its existence. The Association should meet each year in a different city, and, as far as practicable, in localities widely apart. At every meeting there is a fresh accession to the membership, drawn largely from the surrounding country, and a fair proportion of these accessions become permanent members. Does any one suppose that similar additions would take place if the annual meetings were held year after year in Washington, or any other city? It needs the immediate influence, the presence of a large meeting and the enthusiasm evoked to compel this annual increment. To a large number of the profession, the American Medical Association is only a name, and this may be emphasized by the comparatively small number who have embraced the privilege of joining "by application." To one who has attended a meeting, the Association is a living reality, and incidents happening twenty or twenty-five years ago have, as we know, been cherished and oft repeated by those who in that period may have met the Association at most but twice. The centre of population is rapidly moving westward, and with this increase of population the number of physicians located in the West has proportionately increased. The increase has been greatest in the Pacific Coast States and Territories; yet how many physicians of this vast region could afford to attend a meeting held in Washington, and to take an expensive trip, involving an absence of at least three weeks.

It may be urged that a permanent home and the removal of The Journal to Washington does not imply that meetings shall be held in that city, but we regard it as an entering wedge that should certainly be withdrawn.

As for the question of the removal of The Journal, the reasons so far advanced seem to be mainly sentimental. We have watched the medical press carefully for some solid argument in favor of the change, but none are forthcoming, while the testimony against it is overwhelming. The present location is central; Chicago, as a great city and trade centre, offers facilities for publication that are not surpassed by other cities; as a great railroad centre its opportunities for distribution and mail service are unequalled. This latter fact chiefly concerns us in the West, as The Journal now reaches us on Monday, two days in advance of any of the Eastern weeklies, and three days ahead of all but one. It has been stated that 85 per cent. of its advertisers have expressed a preference for Chicago as the place of publication. While we do not accept these figures at their face value, we still believe that a journal published in Chicago is much more likely to have a large amount of advertising than the same journal in Washington. Outside of these facts there are no propositions for discussion. The Journal is not what its best friends desire it to be. On the other hand, it is questionable whether under existing circumstances it could have been made better, and certainly its present location has had nothing to do with the matter. There are two factors needed to make The Journal what we desire it to be—*the American medical journal*: 1. A large and increasing income. 2. An able and competent editor, who shall be allowed to edit The Journal untrammelled by the direction or supervision of any authority save that of the Association in general. These factors can be attained as well in Chicago as in any other city, and a careful study of the question shows that there are unmentioned conditions giving her superior advantages. The question is to be voted upon at the next meeting—i. e., the question of removal to Washington is to be voted upon at Washington—a manifestly unfair proceeding, giving, as it does, a preponderance to the local vote. Arrangements should be made for an early canvass of the entire Association, thus giving every member the opportunity of expressing an opinion, though not of voting.—*Occidental Medical Times*, March, 1891.

For years there has been a move on foot by certain self-constituted custodians, who flatter themselves that they possess all the brains and refinement of the American Medical Association, to remove The Journal of the Association to Washington. These "wise men of the east" whose habitation is circumscribed by the Alleghanies on the West, the Potomac on the South, the St. Lawrence on the North and the pine clad hills of Maine on the East, would take to themselves the sole prerogative of dictating the editorial utterances of The Journal. This clique has its head at Washington, D. C. Not satisfied with the honor the capital can confer upon them, this admiration society, composed of medical politicians, would take to themselves the complete control of our National Journal and crack its fingers in the face of the great South and West. Is this right? Is it just? Will it be tolerated?

The reason given, ostensibly, for removing The Journal to Washington, is that it, being a national organ, should be published at the capital of the nation. This is the merest nonsense. The truth is, a few of those would-be censors desire to get control of The Journal for no other reason than self glorification. Let every member of the Association from the South and West, who attend the next session, see to it that this move to rob them of their just dues be unceremoniously decapitated.

The great West has about ceased to bow its knee to the sweet scented, velvet fingered, esthetical East. Washington City is scarcely large enough to make a respectable

suburb to Chicago, yet they—the medical politicians and presto pass quick manipulators—have the immaculate gall to attempt to gobble up and control our National Journal. Can they do it?

In our next issue we shall give some facts and figures demonstrating the absurdity and injustice of the selfish move.—*The Texas Health Journal*, March, 1891.

MISCELLANY.

CONVENTION OF MEDICAL LICENSING BOARDS.—At the suggestion of Dr. William Perry Watson, Secretary of the State Board of Medical Examiners of New Jersey, Dr. Rauch has called a meeting of one or more representatives of the various medical licensing boards in the United States, to be held in Washington, D. C., on May 6, during the meeting of the American Medical Association, in order to effect a permanent organization and to make rules and examinations as nearly uniform as possible. Licensing boards now control medical practice in 21 States. It is expected that much good will come of this meeting.

THE BIG FOUR AND THE ANNUAL MEETING OF THE ASSOCIATION.—To members of the American Medical Association who contemplate attending the annual Meeting at Washington, D. C., May 5th to 8th, a few words in regard to the best means of reaching Washington will no doubt prove acceptable. The recognized line from Chicago is the Popular Big Four Route in connection with the Scenic Chesapeake & Ohio Ry., from Cincinnati running via White Sulphur Springs, through the beautiful mountain regions of the Virginias, over its own tracks into the City of Washington.

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Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 28, 1891, to April 3, 1891.

By direction of the President, the following named officers are detailed for duty under the Intercontinental Railway Commission appointed under a provision in the Act of Congress approved July 14, 1890, for the purpose of making "a preliminary survey for information in respect of a continental railway recommended by the International American Conference, and they will report in person to the Commission in this city accordingly: Capt. Edgar L. Stevens, Third Cavalry; First Lieut. Stephen M. Foster, Fourth Artillery; First Lieut. Lyman W. V. Kennon, Sixth Cavalry; First Lieut. Anthon S. Rowan, Ninth Infantry; Second Lieut. Samuel Reher, Fourth Cavalry; Second Lieut. Charles A. Kitchen, Third Cavalry. Capt. William C. Shannon, Asst. Surgeon U. S. A., for duty as medical officer of the party to which he may be attached. Par. 5, S. O. 73, A. G. O., Hdqrs. of the Army, Washington, April 1, 1891.

Major David L. Huntington, Surgeon, on being relieved by Capt. Henry G. Burton, Asst. Surgeon, from duty at San Diego Bks., Cal., will report in person to the commanding officer, St. Francis Bks. St. Augustine, Fla., for duty at that post, reporting by letter to the commanding General, Div of the Atlantic. Par. 5, S. O. 71, A. G. O., Hdqrs. of the Army, March 30, 1891.

Capt. Henry G. Burton, Asst. Surgeon, now at San Diego, Cal., on sick leave of absence, is relieved from further duty at Vancouver Bks., Washington, and will report in person to the commanding officer, San Diego Bks., Cal., for duty at that post, relieving Major David L. Huntington, Surgeon, and reporting by letter to the commanding General, Dept. of Ariz. Par. 5, S. O. 71, A. G. O., Hdqrs. of the Army, March 30, 1891.

Capt. Van R. Hoff, Asst. Surgeon, leave of absence granted in Order 61, c. S., Ft. Riley, Kan., is extended twenty-three days. Par. 3, S. O. 36, Dept. of the Missouri, March 27, 1891.
Major Joseph B. Girard, Surgeon, is relieved from duty at Ft. Lowell, Ariz., to take effect upon the withdrawal of the troops from that post, and will report in person to the commanding officer, Alcatraz Island, Cal., for duty at that station, reporting by letter to the commanding General, Dept. of Cal. By direction of the Acting Secretary of War. Par. 5, S. O. 70, A. G. O., Hdqrs. of the Army, Washington, March 28, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Two Weeks Ending April 4, 1891.

P. A. Surgeon Howard E. Ames, promoted to Surgeon March 19, 1891.
P. A. Surgeon Stephen S. White, ordered to the U. S. S. "Baltimore," Asst. Surgeon Geo. McC. Pickrell, promoted to P. A. Surgeon March 25, 1891.
Surgeon Wm. Martin, ordered to Naval Rendezvous, San Francisco, Cal.
Medical Inspector C. H. White, appointed Fleet Surgeon, Pacific Station.
Asst. Surgeon H. N. T. Harris, ordered to the U. S. receiving ship "St. Louis."
P. A. Surgeon George McC. Pickrell, ordered to Naval Hospital, New York.
P. A. Surgeon C. W. Rush, ordered for duty with Intercontinental Railway Commission.
P. A. Surgeon F. N. Ogden, ordered for duty with the Intercontinental Railway Commission.
Asst. Surgeon James H. North, Jr., ordered to the Navy Yard, New York.
Surgeon F. B. Stephenson, ordered to the U. S. S. "Marion."
P. A. Surgeon T. B. Berryhill, ordered to the U. S. S. "Marion."
Medical Inspector C. H. White, ordered to the U. S. S. "Baltimore."
Medical Inspector J. H. Clark, ordered to the U. S. S. "San Francisco."
Medical Inspector A. A. Hoehling, detached from President of Naval Examining Board.
Asst. Surgeon Rand P. Crandall, promoted to be P. A. Surgeon February 27, 1891.
Carl DeWolf Brownell, of Bristol, R. I., commissioned an Asst. Surgeon in the Navy April 1.

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THE

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ORIGINAL ARTICLES.

SPONTANEOUS UMBILICAL HÆMORRHAGE IN NEWLY-BORN INFANTS.

Read before the Medical Society of the District of Columbia, February 4, 1891.

BY J. WESLEY BOVEE, M.D.,

VISITING PHYSICIAN TO WASHINGTON ASYLUM HOSPITAL; ATTENDING PHYSICIAN TO ST. ANN'S INFANT ASYLUM; AND OBSTETRICIAN TO COLUMBIA HOSPITAL FOR WOMEN AND LYING-IN ASYLUM.

The subject of hæmorrhage from the umbilicus and umbilical cord of infants during the first few days after birth has received very little attention from the profession. And I am led to think this condition has not received the amount of consideration it deserves. It is fortunately of infrequent occurrence, and having seen four cases, I have ventured to prepare this paper upon that subject.

Any malady having a mortality rate of 76 per cent., occurring ever so seldom, should command more earnest attention from the medical profession than is shown by the literature upon this grave condition of the newly-born. It should not be cast aside with but superficial consideration; it should be carefully studied. In this paper I have considered only the variety of omphalorrhagia in which there are usually manifestations of a general condition.

The seventeenth century brought us the first allusion to this subject, since which time various writers have occasionally written upon it. Probably the first case of this trouble ever recorded in medical annals was that published in the work of Philipp Hoechstetter, of Augsburg, in 1635. The victim, a boy, was thought to be suffering from hæmophilia. According to my researches the next was the fatal case of Mauriceau, in 1668. Next following this was the case of Watts, in 1752, so frequently quoted by recent writers as the first recorded case, and following it, Degland's case. These reported cases comprise nearly all the literature on the subject to 1800. Cheyne begins the work for this century by reporting a case in 1801, and four years later Sedillot's excellent article appeared. In 1822 Pout reported three cases, and since that date over 500 cases have been reported. A number of valuable contribu-

tions to this subject have been furnished by Marc Buchner, Rittershain, Ribemont, Grandidier, Jenkins and others, and to these writers I have to acknowledge my indebtedness for much information received from their papers. I have also to thank the officers of the U. S. Army Medical Library for their kind assistance.

Frequency.—If by considering the number of reported cases an opinion as to its frequency can be formed, surely it is a very rare occurrence, for since the memorable first case published by Hoechstetter in 1635, but 518 cases of this kind of hæmorrhage from the umbilicus of the newly-born child have been published. Previous to 1850 this subject was scarcely mentioned by textbooks on diseases of children and obstetrics. Since that date those that mention it pass it over as of little moment because of its rarity. During the years 1851 and 1852 nearly 10,000 children were admitted to the Foundling Hospital in Paris, there being but one case among this large number of children. Vogel says it occurs once in 10,000 cases, he, in a large experience, having seen but one case; and according to Dr. Stephen Smith, there were among 6,654 births in the Dublin Lying-in Hospital, no cases of this trouble.

Minot says: "It is not a little remarkable that men of such large experience as Churchill and West should barely allude to this subject." West's work on Diseases of Infancy and Childhood, contains the results of 640 observations, chiefly made among 16,276 children who came under his observation. He never met with a case. Other writers, however, claim for it a much greater frequency. Cox reported two cases among 2,000 births at the Emigrants' Refuge, Ward's Island, New York, and Dr. E. L. Partridge says that among 1,166 infants born in the Nursery and Child's Hospital in New York, eleven cases of hæmorrhage from the umbilicus occurred, with a mortality of 75 per cent., and that in the Sloane Maternity Hospital fourteen cases, with a mortality of over 60 per cent., occurred among 850 infants. He has seen over thirty cases, but writes me he has no notes of them. Whittall, writing on this subject in 1877, said that during the last preceding twelve years 2 per cent. of the infants born in the Colored Hospital in New York had suffered from this malady. Dr. Julia Ingram had

three fatal cases at the same time in one ward of the New England Hospital. The greatest number of cases seen by one practitioner were the 132 cases of Rittershain. If its occurrence be rare, what must have been the experience of a man who has seen 132 genuine cases. I cannot believe it is so rare. On the contrary, my experience is that it is much more frequent than supposed, probably occurring as often as once in 500 cases, and I believe it figures largely as a cause of death among infants. The health office reports of the large cities should show valuable figures on this subject.

Causes.—The causes of this form of bleeding are numerous and varied. If the cord has been short, considerable traction may have been made upon it during labor, and slight solution of continuity of the tissues about the umbilicus may have been produced, though perhaps escaping notice for some time. It may also be commenced by injury, as cited by Willis,¹ causing alarming hæmorrhage, but usually arises spontaneously. Another frequent exciting cause is the formation of granulations at the umbilicus following the dropping of the cord, as in Read's² case, which readily yielded to the application of benzoated oxide of zinc ointment. Deformities of the viscera have been considered in this connection, inasmuch as they have been frequently found in patients that have died from this cause.

Some writers have thought climatic conditions of various kinds have been influential as a cause, but I think without tangible reasons.

Sex was pointed out by Ray,³ in 1849, as being important in this connection, as two-thirds the infants affected were males.

The most prolific causes are hereditary diseases, such as syphilis, hæmophilia, etc., and dyscrasia either local or constitutional. Grandidier⁴ states that out of 576 bleeders, spontaneous hæmorrhage from the umbilicus occurred in but twelve cases, but some of these twelve cases were not newly-born. In fact, fatal bleeding in this class of people does not usually occur until after the first or second year, and the blood is usually coagulable, in contradistinction to the condition of the blood in the malady under consideration.

There can be no doubt that syphilis is a frequent cause. Campbell's⁵ case, the mother of which did not know who was the child's father, and who had previously been under treatment for syphilis by Dr. Campbell, is a striking case. The child seemed at two months to thrive upon large doses, 5 to 8 grs., of iodide of potash four times daily. In cases one and three of the author's, syphilis also seemed to have acted as a cause.

In Ingram's cases the cord was not ligated just

after birth, as is customary, which possibly may have acted as an exciting cause, inasmuch as three of them occurred at the same time in the same hospital ward.

Dr. Minot⁶ published cases which bear very strong evidence of heredity. He quotes Dr. A. Hoover, of East Cambridge, who says: "I attended a woman to all appearances healthy, and who has good labors. She has lost four children from umbilical hæmorrhage. She has since had a child which presented a slightly jaundiced look, but no hæmorrhage took place and it did well."

Minot has also had cases in which the first, a female, and fourth, a male child, had died from this cause, and the second and third children were healthy and escaped umbilical hæmorrhage. He found that in 11 out of 12 cases, or 91 $\frac{2}{3}$ per cent., the mothers were healthy; that in 26 out of 32 cases, or 81 per cent., the children were born healthy; that in 22 out of 32 cases, or 68 $\frac{3}{4}$ per cent., the children were males; and that in 14 out of 15 cases, or 93 $\frac{1}{3}$ per cent., the labors were natural. It could readily be understood if hæmorrhages of this character would be most frequent in poorly developed and feeble children, but most cases have been reported as being in good condition and of good weight.

Another cause that is worth noticing is the mental condition of the mother during pregnancy. This may be bordering upon the subject of maternal impressions, but the two have actually been merged. In one of Minot's cases the mother had worried continually during pregnancy lest the child should be a victim of hæmorrhage from the cord, and this after having a number of children none of which was so afflicted. If the mother has been subjected during pregnancy to uncomfortable and improper hygienic surroundings, and is in bad general health from any cause, the infant will be more liable to this unfortunate condition.

Symptoms.—Bleeding about the navel usually appears without warning, though in occasional cases it is preceded by more or less marked jaundice, purpuric spots, as in one of McCarty's⁷ cases, ecchymoses, petechiæ, and perhaps bleeding from other parts, as observed by Dr. Julia Ingram.⁸ Granulations at umbilicus should cause us to fear this malady. Although nearly all the children that have been afflicted with this trouble have been in good condition, yet it is believed that premature birth, as in two of the author's cases, may predispose to it. The various evidences of syphilis, and of purpura and kindred affections, when present should give us alarm. One of Ingram's cases was noticed to have a peculiar whining cry accompanied by paralysis of left side of face. In Gibbs's⁹ case the mother stated she

¹ Med. and Surg. Reporter, Philadelphia, 1889, ix, 709.

² Ibid., 1881, xlv, 342.

³ Ray, Lond. Med. Gaz., 1849, xliii, 423.

⁴ Grandidier, "Die Hæmophiliæ," 1855, Schmidt's Jahrbucher, 1863, Bd. cxvii, 335.

⁵ Arch. Pediatrics, Philadelphia, 1890, vii, 449-445.

⁶ Amer. Jour. Med. Sci., 1882, xxiv, 310.

⁷ McCarty, Southern California Pract., 1887, ii, 211.

⁸ Loc. cit.

⁹ Philadelphia Med. Times, 1885-84, xiv, 616-621.

always bled easily and at the slightest provocation. She had severe post-partial hæmorrhages. These two facts should have aroused anxiety concerning the child. Very frequently the only symptom noticed previous to the hæmorrhage from the umbilicus is jaundice, which is often quite marked, but clayey stools usually accompany it. Usually the first indication of this form of hæmorrhage is the bloody appearance of the dressings over the umbilicus, which, according to the amount of blood lost, is more or less marked. This may occur at any time. In fact, one case was reported in a young lady who had frequent attacks of bleeding from the umbilicus since infancy, but Minot found in 47 cases that the average age at which it began was eight days. It may be a very slow oozing, continuing several days and yielding to treatment, or ending in death. Or it may be sudden and severe, like Young's¹⁰ case, which ended in death in twenty minutes, and that of Stephen Smith,¹¹ which died in one hour.

Some cases have been reported where the hæmorrhage was slight and of brief duration, recovery soon following. Unfortunately, these cases are but a small part. The bleeding may occur previous to separation of the cord, and in that case is usually severe, and generally fatal. Of the last 37 cases reported I began bleeding before the cord separated. Of these 14, or 74 per cent., died. And of 18 in which hæmorrhage occurred subsequent to that event only 7, or 39 per cent., succumbed. It would appear that most cases occur at the time of or subsequent to separation, as the cord usually separates from the fourth to the sixth day, and Minot's average for the beginning is the eighth day.

There seems to be some relation between jaundice and this malady, and Dr. Brooks,¹² of Texas, reports a case of profuse escape of bile, itself, from the umbilicus. In some cases there is diarrhoea, and in others constipation. Very frequently, after the loss of blood has gone on one or two days, hæmorrhage from the bowels, eyes, skin abrasions, roof of mouth, gums, etc., occur. Parttridge¹³ has found, also, blood in the vagina, and by post-mortem examinations, blood in the uterus. One of Ingram's cases vomited blood. Vomiting, however, very seldom occurs, and pain was noted in but four cases. In these cases it was attributed to extending the legs. Petechiæ and ecchymotic spots on different portions of the body occur frequently during the progress of the malady. They are most frequent on the back, forehead, roof of mouth, knees and elbows. Minot found these conditions in twelve out of thirty-nine cases. In Campbell's case, which was much emaciated, there were bullous syphilides. The

hæmorrhage, when rapid or profuse, comes usually from the arteries and is lighter in color than when it merely oozes from about the umbilical pit. In Young's case which died so quickly, the hæmorrhage was from the left side of the base of the cord, and Claudy's was of the same character. Quite a number of patients have died in convulsions. After the bleeding has progressed in spite of treatment, one or two days, the infant shows marked lowering of vitality, nurses feebly, moans, appears pallid and emaciated, and perhaps dies though the hæmorrhage be arrested. Bulging of the fontanelles is frequently present, and the presence of fluctuating tumors about the head has been observed. The blood is usually thin and watery, and varying in color from very pale to very dark, when it is thought to contain bile, as it stains the clothing the same as bile would if brought in contact with them. It usually oozes from the umbilical depression and is non-coagulable. The average duration of this form of bleeding cannot be definitely determined, as the length of time bleeding continues is not usually reported in the successful cases. Rouse says the average length of hæmorrhage in fatal cases is three and a half days. The fortunate cases probably bleed considerably less and a shorter time.

It has been my misfortune to meet with four cases of this fatal condition, and but one of them recovered. I give them in detail below. Two cases were seen by my friend, Dr. H. M. Newman, of this city, who has kindly furnished me notes of them which are appended to my own cases.

Case 1.—Carrie C., colored, single, age 16 years, an inmate of the female workhouse in this city, was seized with pains in lower abdomen, with hæmorrhage from uterus, during the month of March, 1890. In this institution there is a daily average number of about 120 women—the refuse of the District of Columbia. The patient, Carrie C., though better than the greater portion of her associates, was not a brilliant in the moral world, and upon inquiry it was revealed that she had not menstruated during the past six months. She was transferred to the Washington Asylum Hospital, where upon examination she was found to be pregnant about six months, and was kept in bed five days, taking opium to the extent of narcosis for the first two or three days. After being about the ward she complained of pains and lost a little blood. She was treated nearly the same as during the first attack. After this she felt very well for a few weeks, when another attack occurred similar to but not as severe as the former attacks. I suspicioned she was attempting to relieve herself of the fœtus and had her constantly watched. She was tidied along until the night of June 4, when labor began in earnest, and she was delivered at 8 A.M., the 5th, of a healthy male child weighing 8 lbs., nothing un-

¹⁰ Young, Med. and Surg. Reporter, Philadelphia, 1885, liii, 162.

¹¹ N. Y. Jour. Med., etc., July, 1853, xv.

¹² Texas Cour. Rec. Med., Fort Worth, 1883-84, i, No. 3.

¹³ New York Med. Record, 1890, xxxviii, 202.

usual occurring. During this and the following days the child voided urine and its bowels moved, nothing unusual being noted by nurse concerning either act. At 4 P.M. the 6th the nurse reported bleeding from the cord. A second ligature was placed around the cord near the abdominal wall and the bleeding ceased. At 11 P.M. bleeding was again observed and a third ligature was applied, still lower than the second one. The flow ceased, but in a short time oozing from about the junction of cord and abdomen was noticed. A concentrated solution of tannin was applied and again the hæmorrhage ceased, to reappear in a few minutes. Collodion was now used, which checked the oozing for about fifteen minutes, but the respiratory movements of the child cracked it and the flow resumed. Monsel's solution was freely applied, but with little avail, the child dying at 12:30 A.M. the 7th. There were no symptoms other than bleeding.

Autopsy at 9 A.M. June 7. Rigor mortis not well marked, muscles pale and soft, heart contracted; umbilical vein large, as were the hypogastric arteries. A clot about 3 inches long and 1 inch broad was found on right side of abdomen, with deep staining of peritoneum beneath and around it. Other extravasations of blood were found in both the visceral and parietal layers of the peritoneum. All the visceral organs pale and soft. The next three cases occurred in the Columbia Hospital for Women and Lying-in Asylum during my services there, and through the kindness of Drs. Scott and Kelly I am able to give them in detail. They are as follows:

Case 2.—Mary L. C., colored, age 20 years, was admitted to hospital December 16, 1885, pregnant the first time. Her general appearance was excellent, and she could remember no symptoms of pregnancy other than morning sickness during the early months. Urine contained no albumen. Fœtal heart sounds, 140 per minute, heard to the left of median line. Labor began December 18 at 6 A.M., and progressed slowly and normally until the 19th at 10 P.M., when she was delivered of a colored living, female child weighing 5¼ lbs., and healthy to all appearances. The placenta appeared normal and was expelled intact, weight 1¼ lb. On the second day after birth a slight hæmorrhage occurred from the cord, which yielded to a compress and a second ligature. On the fourth day another attack occurred that was also treated successfully by the same method for a time, but at 2 A.M. the 23d, a fresh fatal hæmorrhage began and lasted but a few minutes. The hæmorrhage was always sudden and without warning.

Case 3.—P. A., a prostitute, was admitted about 1 P.M. January 29, 1887, in labor. She was white, thin in flesh, anæmic and of a nervous temperament. About two months previously I had attended her for threatened miscarriage, she de-

claring it her first pregnancy. She was put in bed, and an examination revealed a footling presentation, the sacrum to the right and front. The labor was rapid and easy, and at 3:20 P.M. she was delivered of a male, white child, weighing 4¾ lbs., in good condition but probably premature. Milk was secreted sixty-three hours after delivery, but she refused to nurse child and secretion was arrested in a few days by application of spirits of turpentine. The child was wet nursed. Considerable hæmorrhage occurred from the umbilicus on the seventh day, February 5, which could not be arrested by pressure and persulphate of iron. It was transfixed with hare-lip pins, ligated and covered with plaster of Paris. This permanently checked the oozing of blood. Three days later the pins were removed. After the hæmorrhage was arrested the child improved rapidly, and was in an excellent condition when it left the hospital with its mother about two weeks later. It was farmed out that summer, and was buried before the hot weather ended. The mother is yet a thin, nervous woman, bearing evidence of syphilis.

Case 4.—Eleanor M., black, 21 years old, was admitted to hospital in labor December 13, 1887. This was her first child. She menstruated last April 1, and felt life in July. She had suffered almost continually from vomiting since conception occurred, and headaches during her pregnancy were severe and frequent. Labor pains were feeble and cervix uteri was not dilated until 3 P.M. The second stage was very rapid. The head had just begun to bulge the perineum slightly when a hard pain came on. The patient now became unmanageable through fright and, bearing down hard, drove the child through the perineum into the world. The placenta, weighing 1¼ lb., immediately followed without another pain. Part of the membranes were, however, firmly adherent, and had to be peeled off manually. Severe post-partal hæmorrhage occurred. Notwithstanding this the perineum was closed by sutures and union procured. The child, a male, was very light-colored as a negro child, and from its appearance was thought to be three or four weeks premature. Slight œdema of left eyelids appeared December 20, which was attributed to child frequently rubbing them with fists; hands were tied; mild sol. alum and zinc dropped in eye every two hours and lids smeared with vaseline. Eye recovered in three days. December 27. Baby nurses regularly, but seems to be suffering from malnutrition. Bowels loose and fœces of grayish color. Ordered beef peptonoids and hydrarg. cum creta gr. ʒss, with bism. subnit. gr. ij., diarrhœa ceased entirely December 28, after taking twelve powders. December 30 diarrhœa began again; urine very high-colored, powders renewed; spts. æth. nit., gtts. v. every two hours. There appeared considerable oozing of blood from um-

bilicus, which was touched with liq. ferri sub-sulph. and a compress applied. Hæmorrhage persisting, styptic cotton was used and the stump touched several times with the iron solution. The blood persistently oozed under the compress, being very dark, as thin as water and non-coagulable. Several times during the night bleeding was very profuse, but would entirely cease for a few minutes whenever the dressing was renewed. The skin was extremely yellow, jaundice being well marked. Gums bled upon the slightest touch. Patient grew weaker as hæmorrhage continued, until, about 9 A.M. December 31, it died of exhaustion.

The next two cases occurred in the practice of Dr. H. M. Newman of this city, who communicated them to me. He was called during the year, 1885, to see a fairly plump female child that had been delivered by a midwife and had progressed well until the fourth day when hæmorrhage from the umbilicus began. The oozing continued, and on the third day, being the seventh since birth of the child, he was first called to see it. He found the cord had sloughed off and blood welling up from the umbilicus. He applied persulphate of iron under a compress and later nitric acid. These failing, he ligated *en masse* which checked the flow for a short time only, and the child died the following night. The other case he saw during the month of September, 1890. A healthy male child ten days old was attacked by a sharp hæmorrhage from the umbilicus which yielded to one application of a styptic covered by a compress. No recurrence of the accident was noticed and the child is now well.

Prognosis.—The gravity of this malady is under the most favorable circumstances very great. The result seems to be most favorable when the infant is of the female sex, born of good parents, the mother being in good health during the term of pregnancy; when the general condition of the child is at or above par, the bleeding slight and occurring at an advanced age of the child. Of course any malformation of the viscera would tend to a fatal termination. But marked jaundice with persistent oozing of blood from about the umbilicus are very alarming phenomena, and if hæmorrhages from other parts set in, purpuric spots appearing, the result will be fatal in nearly every case. Occasionally a slight, short hæmorrhage from the umbilicus, even in vigorous children, will cause such a depression that reaction never occurs and the child dies. I think, however, that in infants suffering from marasmus and kindred affections in which their vitality is low, that an attack of even slight omphalorrhagia proves fatal. Altogether the mortality rate in this malady is gradually decreasing. As given by Jenkins in 178 cases it was 84 per cent. Hennig¹⁴ says it was 83 per cent. in 230 cases, includ-

ing Jenkin's table, and Keiller¹⁵, adding six cases to Hennig's list, says it is 68 per cent. while the author finds in 518 cases it is 76 per cent. Hennig says one-half die on the fourth day and 83 per cent. do not live beyond the second week.

A few, however, live longer before death overtakes them. Olliffe's¹⁶ case died at the end of seven weeks, being the longest case yet recorded. His patient was small and delicate and on the sixth day the cord separated. Five days later omphalorrhagia began, accompanied by icterus, purpuric spots on tongue and palate and bloody dejections. The oozing was soon controlled by ligature *en masse* but great debility continued until death occurred. Of the 518 cases reported 393 cases died and 123 recovered,—a mortality of 76 per cent. Of these cases the sex is given in but 347 cases, 224 of which were males of which 174 died, 78 per cent., and 123 were females, 95 of which died, 77 per cent. Of the 169 cases in which the sex was not given 124 died, a mortality rate of 73 per cent. The male sex is afflicted about twice as often as the female.

Pathology.—The pathological conditions existing in umbilical hæmorrhage in the newly-born has received very little attention and so far the microscope has had very little acquaintance with this subject, although Vancott, of Brooklyn, did some careful work on the subject. The diseased conditions found have been variable, and again cases have occurred in which no lesion was found. In a number of autopsies on infants that have died from this trouble the umbilical vessels have been found closed and in others patulous, which in early cases is not necessarily pathological.

M. Lorain, according to M. Henri Roger,¹⁷ while a student at *Enfants Trouvés*, investigated extensively the process of obliteration of the umbilical arteries and arrived at the following conclusions. There are two modes of obliteration; in the first the obliteration is provisional; it suffices for the present necessities of the new-born child and guards against early accidents; it consists in a clot which forms a few hours after birth. This coagulum is found in children who have not lived more than four or five hours; it commences sometimes in the arteries of the cord, and sometimes at the junction of these vessels with those of the abdomen; it is black, of mediocre consistence, adhering but slightly to the walls of the artery, and is at first very short; subsequently it is elongated by the successive deposition of new molecules, until, at the end of the second day it occupies two-thirds or half the length of the artery, commencing at the umbilicus. It is then firmer, denser and more adherent to the walls of the vessel. During the succeeding days this coagulum acquires greater consistence and loses at the same time, its black color and assumes a fibrinous aspect;

¹⁴ Keiller A., Edinburgh Med. Jour. 1880 and 1881: xxvi, 329-393.

¹⁵ London Med. Times, 1847, xvi, 116.

¹⁶ L'Union Méd. 1853, 138 147.

¹⁷ Handbuch der Kinderkrankheiten. 1877, p. 101.

becomes more and more regularly cylindrical. In proportion as the coagulum contracts the artery narrows. This may be called the provisional mode of obliteration. The other consists in the complete occlusion of the artery at its umbilical extremity, and occlusion which occurs in the following manner: The extremity of the artery is retracted from the navel, contracts, and presents a conical extremity; this hardly takes place before the twenty-fifth or thirtieth day; at this date the calibre of the artery is very small, and is occupied by a fibrinous clot, white, dense, regularly cylindrical and closely adherent to the arterial coats. This is the true obliteration.

Keiller found in a case that began bleeding on the eleventh day and died on the fourteenth, that the umbilical vein and left hypogastric artery were empty and firmly contracted, while the right hypogastric artery was open and contained traces of blood. A very plausible cause of this trouble and a condition usually present in it is inflammation of the umbilical blood vessels. By thickening and stiffening the walls of these vessels it prevents contraction of them and consequently encourages bleeding. There seems to be, however, no constant condition of the blood vessels of the navel in this malady. In one case in which the arteries and vein were both found pervious and pus and blood clots were adhered to the tunica of the veins. It is reasonable to think these vessels should close shortly after birth as in the lower animals where the cord is not tied and hæmorrhage does not occur. I believe that when these vessels are found pervious after a week it is due to a non-coagulable state of the blood and is pathological. In cases of bleeding after separation of the cord there are usually found ulcers at the site of detachment.

The most constant condition found is some functional trouble with the liver—some derangement with the formation and elimination of bile. Jaundice and clayey stools would naturally indicate obstruction to the passage of bile into the alimentary canal and this really is true in many cases. Thayer¹⁸ found in a case an empty gall-bladder and an impervious condition of the lower half of the bile duct and the whole of the ductus communis choledochus. In about half the autopsies the bile duct was found occluded. Many different phrases have been used to express the but little altered condition of the liver in this malady. Van Cott¹⁹ found by the microscope that in a case examined by him the cells of the parenchyma of the liver were quite uniformly swollen, granular, contained bile pigment and their nuclei quite indistinct or invisible. The connective tissue of the portal canals was everywhere increased and densely infiltrated with small round cells. This indicated hepatitis which no doubt caused

the jaundice and secondarily the hæmorrhage on the 6th day which ended fatally on the 11th day.

The condition of the blood, no doubt, plays an important part in umbilical hæmorrhage. If over-loaded with bile it is rendered non-coagulable by its extreme alkalinity and the red blood corpuscles are to some extent destroyed. The walls of the vessels are consequently weakened and the fluid blood escapes more easily than usual. The extreme fluidity of the blood of infants suffering from bleeding from the umbilicus has been considered due, by some writers, to the mothers drinking large quantities of water during pregnancy thus diluting their own blood and of course that of the child. The changes in the circulation of the blood at birth are not always perfect and these imperfections tend to nonaeration of the blood. In consequence venous blood is carried back through the arterial system to the tissues of the body and vitiation ensues. With that comes, also, weakening of the blood vessels and probably loosening of the provisional clots in the umbilical vessels. This loosening permits bleeding from these vessels varying in amount according to the extent of loosening and if the blood be much thinned by loss of red blood globules and by dilution with bile the tendency of the flow is to continue. Various malformations have been found in the circulatory system in these cases. Ingram found a very small right ventricle of the heart and no septum between its auricles. This child lived fourteen days, four days after the hæmorrhage began, which continued until death ensued. There was bleeding at other points, vomiting of blood occurring twice and the post-mortem examination revealed two stomachs, both filled with deorganized blood.

Keiller found the ductus venosus, ductus arteriosus and foramen ovale, all open in a child that died on the fourteenth day after four days of uncontrollable hæmorrhage. In many cases a tendency to bleeding is shown by constant dribbling of thin non-coagulating blood from very slight scratches on various parts of the body. These anatomical defects must seriously interfere with the proper circulation of the blood and decrease its oxygenation. It can be readily understood how the venous system would become engorged and blood back up into the umbilical vein, dilating it where it had nearly closed and escaping at its delicately closed extremity. Again some inherited disease may have effected the wall of the blood vessels. This was noticed in a number of cases where such condition was almost certain to have existed and the blood being very fluid and deficient in fibrinogen the flow was free. Hæmorrhages also occurred from the gums, eyes, bowels, stomach and other parts.

In the author's first case there were numerous extravasations of blood in the peritoneum and a large clot was found in the abdominal cavity.

¹⁸ N. Y. Med. Jour. 1885, xlii, 434.

¹⁹ Brooklyn Med. Jour. 1888, i, 219-229.

Effusions of blood have also been found in the lateral ventricles and under the arachnoid. Other organs have been found at fault in these cases. Hennig states that in every case there are uric acid infarcts in the kidneys. Melæna is a very frequent complication of the form of hæmorrhage under consideration, probably due to the same cause. Zeigler²⁰ says backing up of blood into veins, the walls of which are diseased, is usually the cause of this condition, and Klebs²¹ and Eppinger²² have described a micrococcus found in this malady which they called *monas hæmorrhagicum*.

(To be concluded.)

REMARKS ON THE TREATMENT OF PROLIFEROUS INFLAMMATION OF THE MIDDLE EAR.

Read before the Northwestern Wisconsin Medical Society, at New London, July 8, 1890.

BY H. V. WÜRDEMANN, M.D.,
OF MILWAUKEE, WIS.

Chronic non-suppurative inflammation of the middle ear has been well divided by one of our American writers into two great classes (St. John Roosa):—

CATARRHAL AND PROLIFEROUS.

Politzer and Gruber accept the same classification but under different names.¹ Others subdivide these terms, giving each a local habitation according to its most conspicuous lesion.

By proliferous disease is meant that form of chronic non-suppurative catarrh in which there are marked changes in increase or hypertrophy of tissue,² attended by little or no fluid secretion, *i. e.*, a dry catarrh (Roosa.) This disease is characterized chiefly by its insidious course, having little or no symptoms beyond gradually increasing deafness and tinnitus aurium. It eventuates in entire sclerosis (hence the name given to it, by some writers, of "sclerosis of the middle ear") and profound deafness. The tinnitus may indeed be the only symptom of which the patient may complain. He may indignantly refute the idea that he is at all deaf and only seeks the removal of the obnoxious subjective sounds. The pathology of this affection has been well displayed in several well known text-books. I wish to make a few remarks on the methods of treatment that in my experience have been found to afford the most relief.

Proliferous inflammation having acquired a foothold in the ear, as it were, is in some cases

practically incurable, and the patient should be satisfied if the disease is but kept in check by the treatment. Without proper care the affection is invariably progressive, going from bad to worse and lasting the lifetime of the patient. Thus the prognosis should be always a guarded one, and the patient should be acquainted with the course and nature of the disease in order that his coöperation may be secured and that he may not become disappointed with the length of the treatment. One or two, or a half dozen sittings, in some cases, accomplishes little or nothing. The amount of good that can be done may only be determined by a week or ten days' trial. There are some cases in which, within certain restrictions, an absolute cure may be promised. After a course of treatment by which the hearing has been restored and the distressing tinnitus removed, the patient should be warned that a point of less resistance has been formed which will again give way before a succession of colds and induce a return of the trouble. Those patients who are so fortunate as to recover must observe the strictest rules of hygiene, and should return under the care of their medical adviser at the slightest ear symptom. As a general rule they should be counseled to return in the spring and fall of the year for examination, and if necessary, for a course of treatment.

Do not think this a too gloomy view of the matter, others have given worse.³

Although we cannot in all cases guarantee a cure, yet we may lift many up from the slough of despond into which they have been plunged by their deafness and the agonizing annoyances of the accompanying tinnitus. Yea, we may, if it is allowed, save some from the madhouse. Many persons have been reckoned insane by reason of hallucinations of hearing caused by tinnitus, and some have even been cured of "brain disease" by treatment of the ears.⁴

The deaf, with the exception of deaf mutes, are proverbially sullen and morose. By lifting however so little their load of affliction we may restore those to the world who have retired within themselves, and render them agreeable neighbors and thankful patients.

The therapeutic measures at our disposal are the following:

1. Local treatment of the middle ear and Eustachian tube:

1. Inflation by Politzer's method: *a*, with air; *b*, with vapors.

2. Inflation by catheter: *a*, with air; *b*, with steam; *c*, with medicinal vapors.

3. Injection of fluids through catheter.

4. Eustachian bougies.

5. Electricity.

²⁰ Textbook on Pathology, English Translation, Wood & Co. 1887, p. 54.

²¹ *Ibid.* p. 303.

²² *Ibid.*

¹ Politzer, "Ohrenheilkunde," p. 210. Gruber, "Ohrenheilkunde," p. 409.

² In some instances secondary atrophy of the drum, etc., may occur. (Figs. 3 and 4.)

³ Roosa, "Diseases of the Ear," pp. 396, 409, 411, 437, 438.

⁴ Roosa, "Diseases of the Ear," p. 344-s. Gower, "Diseases of the Nervous System," p. 677. "Troltsch on the Ear," p. 531 et al.

6. Methodical use of ear trumpet and Siegel's otoscope.

7. Operative treatment.

8. Symptomatic treatment of tinnitus and vertigo.

II. Local treatment of nose and fauces.

III. Constitutional treatment.

The local treatment of the middle ear and Eustachian tube is of course the most essential. Often the disease is circumscribed and it is this class of cases that yield most readily to the local applications. Although the topical applications are used through the Eustachian tube they are not, as some writers would have it, entirely directed to that appendix. The vapors and fluids used do undeniably reach the cavity of the tympanum, as is evinced by an inspection of the drum after using them.

Atmospheric air is of great importance, as the simple use of it, either by Politzerization or by the catheter, restores the equilibrium of the air pressure on either side of the drum, and the force of its entrance breaks up adhesions and drives out accumulations of mucous, and besides all this, is a valuable means of diagnosis. The gain in hearing distance (H. D.) after the first inflation, while not so marked as in the strictly catarrhal forms of middle ear disease, is frequently so great as to give the patient undoubted confidence in the physician.

Chloroform, ether, bromethyl or iodine crystals may be used in the Roosa bulb inhaler. The first named is of value in determining, in doubtful cases, whether the tympanum has been reached by the inflation. This point is shown by an injection of the blood-vessels at the handle of the malleus, caused by the irritation of the vapor, and an enlargement of the light spot.

Where sclerosis exists a sensation of heat will be felt by the patient in the ear after the inflation of the same by any of the three first named, while in a healthy ear the sensation is that of coldness. This may be considered a valuable aid in both diagnosis and prognosis.⁵

Where decided retraction of the drum is present (Figs. 1 and 2), or where spots of atrophy occur, a great change will be seen after inflation. (Figs. 3 and 4.)

Treatment through the catheter is our mainstay in proliferous inflammation. The vapors which have been advocated have resolved themselves into three. The vapor of water (steam), although an old remedy, is sometimes useful where deficient secretion exists.⁶

For the exhibition of this remedy I use an ordinary steam atomizer to which is attached a bottle with three glass tubes in the cork for the

purpose of catching the water of condensation and to connect the propulsive power. (Fig. 5.)



Fig. 1.—Great retraction of drum with chalk in membrane.

A rubber catheter must be used as metal becomes too hot. One must be certain that the end of the catheter is in the tuba Eustachii, or damage may be done. To that end steam should be used only when a well-developed sound is heard through the otoscope on auscultation when

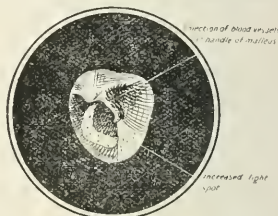


Fig. 2.—Same after inflation with chloroform.

the ear is inflated with air. The steam should be conducted to the ear by successive puffs permitting the catheter to cool between each interval. The sitting should last from five to ten minutes three to four times a week.

The vapor of camphor and tincture of iodine is a more convenient remedy and accomplishes the purpose of steam, that of local stimulation, and is applicable to the great majority of cases. It is employed in the apparatus shown in Fig. 6. This remedy was suggested by Roosa.⁷

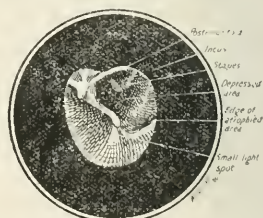


Fig. 3.—Partial atrophy of membrana tympani.

The sitting should last from two to five minutes daily. Where considerable effect is desired this treatment may be preceded by steaming.

⁵ Dr. Löwenberg, of Paris, "Deutsche Med. Wochenschrift," July 10, 1890.

⁶ L. I. Pardee, Transact. American Otological Society, 1870. Roosa, "Diseases of the Ear," p. 376.

⁷ 18 Res. Camphorus, 8.00; Tr. Iodin., 60.00.

Nascent muriate of ammonium (first suggested by Moos, of Heidelberg), is of high value where irritation is required, in those cases that do not respond to other treatment.*



Fig. 4.—Same after inflation with atmospheric air.

The apparatus that I use for the purpose of conveying this vapor to the ear is shown in Fig. 7. It consists of a test tube holding a small quantity of muriatic acid enclosed in a bottle half-filled with water, to which has been added a few drops of strong aqua ammonia. The two are connected as per illustration.

The sitting should last from two to five minutes daily, the patient taking care to breathe none of the irritating vapor.

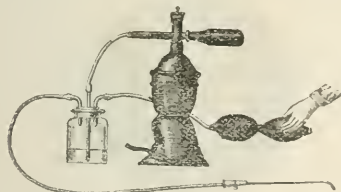


Fig. 5.—Apparatus used for steaming the Eustachian tube and middle ear.

In using each of these apparatus the catheter is either held in place by the left hand of the surgeon or by the patient, or a pair of nose-nippers may be employed. The best of these is composed of a strip of whalebone folded upon itself; this was first used by Delstanche. (Fig. 8.)

All apparatus figured in the foregoing is easily made by the physician himself.



Fig. 6.—Apparatus for generating the vapor of camphor and iodine. (Roosa.)

The German authors are firm believers in the efficacy of fluid injections through the Eustachian tube into the tympanum. This treatment, in my opinion, is useful in some cases in conjunction with other methods. The ordinary way is to inject a few drops of the desired fluid (warmed) into a catheter after insertion, and then to forcibly blow into the same by the air bag. Doubts have been expressed as to whether the medicine ever gets farther than the mouth of the tube. If the patient is instructed to swallow during this procedure, the fluid usually gains the tympanic cavity. The elastic catheter of Weber may be used and the fluid pushed forcibly beyond the isthmus tubæ and into the tympanum. This method, however, is dangerous, and should be, if at all, carefully done. Evidences of success may be

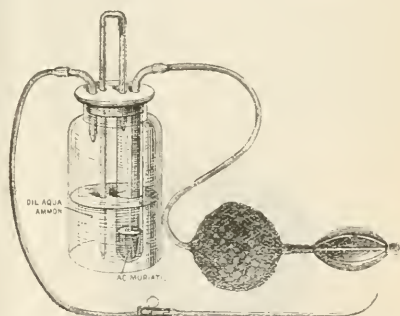


Fig. 7.—Apparatus for generating nascent ammonium muriate.

noticed by the patient feeling a slight pain, which passes away in a few moments, and a feeling of fullness and deafness, which exists for some hours, when some benefit from the procedure may be expected. This treatment attains its best results when used about three times a week.

Numerous ingenious and complicated instruments have been devised for making these injections, but in my opinion, simply the catheterization and swallowing are essential."



Fig. 8.—Catheter holder.

It is advisable to treat patients by either of the previously described methods not longer than two months at a time, when an interval of at least a

* Among the numberless recipes advocated I select the following as the most efficient: R. Sod. bicarb. 50; glycerin, pur., 200; aq. dest. ad q. s., 10.00. M. S. One half a medicine dropperful to be warmed and injected into the middle ear through the catheter three times a week by the surgeon. R. Tr. iodine. 25; aq. dest. ad q. s., 10.00. M. S. As the foregoing. R. Potass. caust., .05; aq. dest. ad q. s., 10.00. M. S. When syphilis is known, or is suspected to be present, the following is useful: R. Potass. iod., .10-.50; aq. dest. ad q. s., 10.00. M. S.

month should intervene before treatment is again renewed by the physician. During this time a Politzer bag with the inhaler may be used by the patient, who should be instructed to blow up the ears once or twice a day according to the indications. Iodine crystals or ether and chloroform may be used in the inhaler.

The following procedures are of occasional use in special cases. Eustachian bougies are indicated where an insufficient current of air on inflation by the catheter reaches the tympanum. (This can only be determined by the use of the auscultation tube or otoscope.) They are strongly advocated by Urbantschitsch, of Vienna, who lays down a number of indications for their use. It is but seldom that we must have recourse to them. The catheter is first passed and then the bougie is pushed up as far as the isthmus (24 mm.). It is allowed to remain *in situ* four to five minutes and then is withdrawn. The end of the bougie which had rested in the tube after withdrawal should present the shape of a lengthened letter S. Afterwards the ear should be gently inflated by the air bag. If the bougie has caused

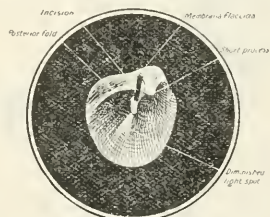


Fig. 9.—Division of the posterior fold.

pain or if upon withdrawal it should be smeared with blood, on no account should inflation be practiced. Emphysema and other grave accidents have occurred from neglect of this precaution, even in the hands of the most earnest advocates of this method.¹⁰

The good of electricity is doubtful, still judging from the effects of the galvanic current in other parts of the body, it may aid in the absorption of exudative masses. A recent writer¹¹ advocates its use in proliferous disease as follows: "An electrode consisting of an insulated rubber speculum with a handle, through which speculum runs a conducting wire" is attached to the negative pole of the battery and used in the meatus, the latter being filled with warm salt water. "If the tube is pervious the positive pole is attached to an ordinary sponge electrode and pressed under the angle of the jaw of the opposite side. If the tube is not freely open the positive pole is attached to an electrode consisting of a hard rubber

Eustachian catheter with a copper wire running through it. The catheter with the wire drawn inside is introduced in the usual way and the wire being held firmly the catheter is withdrawn one half inch leaving wire in the tube. The current is now turned on until the burning feeling is as great as the patient can comfortably bear and continued from five to ten minutes." My experience with this method has led me to attribute any apparent increase in hearing distance during the use of this agent rather to the effect of suggestion than as the result of the current.

Systematic use of the hearing trumpet is in the profoundly deaf not alone an aid to hearing but may even prevent the extension of the deafness, and in some instances an improvement may be noticed under its use.¹²

Siegel's otoscope is not only a valuable aid in diagnosis, in the differentiation of atrophic spots and scars from perforations and in the determination of rigidity and adhesions, but is also of therapeutic value in breaking up the latter. By a course of local gymnastics with this instrument sometimes the hearing is improved.

Operative treatment is sometimes indicated al-

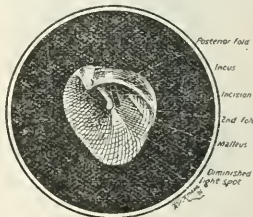


Fig. 10.—Incision for tenotomy.

though it seems that in this country at least it has fallen into disrepute.¹³

It is advisable in the following instances: An artificial opening may be made in the drum when the membrane is very thick or has much chalk deposit (Figs. 1 and 2), or where there is fixation of the ossicles, when an undilatable stricture of the tube exists, and finally when excessive tinnitus has not been controlled by previous treatment.

It is almost impossible to keep up an artificial opening for any length of time, as it soon closes over. The puncture of the galvano-cautery needle gives the best results. The application of chromic acid on the end of a silver probe, although a painful procedure, is sometimes successful in keeping up a permanent opening. Politzer puts a very small piece of hard gum tubing into the wound made by a paracentesis needle.¹⁴

Division of the posterior fold of the drum is in-

¹⁰ Clinical Lectures, Prof. Urbantschitsch, Vienna, 1889. "Diseases of the Ear," Roosa, p. 403.

¹¹ E. L. Jones, of Florence, Ala., "Suggestion on the Use of Electricity in Ear Diseases," The Journal, July 12, 1890.

¹² Lawrence Turnbull, "Aids to Defective Hearing, etc.," Med. Register, March 3d, 1888.

¹³ Transact. American Otological Society, 1881, p. 458 et seq.

¹⁴ Lehrbuch, p. 257.

dictated in excessive retraction of the same when inflation does not restore the natural position. It is done by the paracentesis needle in the position shown in Fig. 9.

Tenotomy of the tensor tympani muscle is done by a sickle shaped knife or the one that is commonly used for scarification. It is indicated in those cases where strong retraction exists, where the drum is restored to its normal contour and the hearing distance is markedly increased by inflation, but where a few moments later it is found that the original condition has returned. In some cases of the "telephone ear," (spasmodic contraction of the M. tensor tympani), which are not mitigated by rest and other treatment, it may be allowable to divide the tendon.¹⁵

This operation is again becoming fashionable and it is even being advocated by the continental authors as applicable to all "cases of sclerosis of the tympanum with relatively good bone conduction."¹⁶

I have noted two cases this year in which improvement was seen after this operation which was done on account of the first indication mentioned. The knife is entered one mm. behind the malleus between it and the stapes (Fig. 10), the blade being pressed upwards upon withdrawal.

In cases where ankylosis of the stapes exists, which have not yielded to previous treatment and where warranted by profound deafness and excessive tinnitus, the entire drum with the ossicles has been excised, or in other cases simply the ossicles.¹⁷

Where there has been adhesion of the membrane and malleus to the inner wall of the tympanum Burnett has excised the malleus and the membrane with good results in a case where this condition was accompanied by distressing tinnitus and vertigo.¹⁸

Trephining the mastoid, although practiced in previous years for this disease, is of course unwarrantable.¹⁹

The tinnitus and vertigo accompanying this affection is not always due to this disease alone. The deafness may also be greatly heightened by affections of other parts of the auditory apparatus, as for instance, disease of the labyrinth, of the nerve or even of the brain center. These structures are invariably affected after the disease has existed a length of time. The nerve and labyrinthine structures atrophy from disuse.²⁰

The treatment of the tinnitus and vertigo should be pursued on general principles and all sources of irritation should if possible be removed. Bromides may be exhibited, the effect being heightened by the addition of Tr. Cannabis

Indica.²¹ Morphine may be given when noises are paroxysmal.

No other sedatives have been found useful. Counter-irritation by a blister behind the ear will be occasionally of avail. Quinine has also been recommended in small doses. (Gowers).

The nose and pharynx, although usually in better condition than in that which obtains in the purely catarrhal form of inflammation, generally need attention, and the disease may not be deemed cured until these parts are in good order. I would especially refer to the removal of hypertrophied lingual or pharyngeal tonsils.

Of course constitutional treatment is here, as well as in other special affections, of prime importance. As is recommended by Sexton²² it has been my practice to administer minute doses of mercury for lengthened periods. The exhibition of strychnine is at times of value but upon its discontinuance the acuteness of hearing is again diminished. The disease is essentially a local complaint, being due to a combination of causes, arising as a rule from diseased conditions of the naso-pharynx. After it has existed for a length of time a change of climate does but little good except in the way of prophylaxis from colds.

The treatment through the catheter by medicinal vapors, especially the vapor of camphor and iodine, combined with the use of Politzer's method of inflation, seems to afford the most relief, and should be first tried. Some cases are helped by the fluid injections and in others a mixed treatment must be pursued. Of the operations advocated those of tenotomy and of division of the posterior fold prove the most useful. Operative treatment is, in the majority of instances, only a last resort.

505 Grand Ave.

VOICE IN FEMALE SINGERS AFFECTED BY GYNECOLOGICAL DISORDERS.

BY CARL H. VON KLEIN, A.M., M.D.,

OF DAYTON, O.

I am requested by a well known ovariologist to state my observation of the voices of female singers when affected by gynecological disorders, hence the following is a brief statement of my observation.

The most difficult cases the laryngologist has to contend with are diseases of the throat caused by disturbance of the ovaries. It is a common thing to meet with cases of acute inflammation of the tonsils, larynx, pharynx and fauces in females during their menstrual period. I have observed the voice in many professional choir singers who have applied to me for treatment during the

¹⁵ Clinical Lecture, Prof. Politzer, 1888.
¹⁶ Cholewa of Berlin and Kessel of Prague, Archives of Otolaryngology, April-July, 1890.

¹⁷ Politzer, Lehrbuch, p. 265.
¹⁸ Charles H. Burnett, "Permanently Good Results of Excision of the M. T. and Malleus in a Case of Chronic Aural Vertigo etc.," Transact. American Otolaryngological Society, 1890.
¹⁹ Roosa, "Diseases of the Ear" p. 503.

²⁰ Gruber, Lehrbuch, p. 478. Weher-Liel, "Ueber das Wesen und die Heilbarkeit der häufigsten Form progressive Schwerhörigkeit," Berlin, 1873.

²¹ Gowers, "Disease of the Nervous System" p. 78.
²² Samuel Sexton, Ear Disease, p. 21.

menstrual period, defective in gravity, force, and timbre, producing in many cases a husky sound, as of a low, masculine order.

A laryngologist of acute hearing who will train his ear to the recognition of sounds and acquaint himself with a known voice, can detect a menstruate nine times out of ten. It is a known fact that all prima donnas try to avoid engagements during their expected period. It is a recognized fact from time immemorial that extirpation of the testicles will greatly change the voice in males. Unto this day the operation is practiced in some parts of the civilized world.

The finest male chorus I ever heard was by a band of eunuchs at the Alexandre Nefsky Church at St. Petersburg, Russia, who were prepared for that purpose. Born eunuchs, or hermaphrodites, generally have voices of feminine order, but do not make good singers on account of their sluggishness and want of animal propensities. It is said in order to make a good singer one must be in love. It is undisputable that impediment in the male organs influences the male voice, so, too, impediment in female organs influences the female voice.

In many cases of ovarian disturbance, enlargement and hypertrophy of the tonsils and of the soft palate are observed, hence the laryngologist often-times can accomplish but very little without the assistance of a competent gynecologist.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

CANTHARIDINATE OF POTASH IN TUBERCULOSIS.—At the meeting of the Berlin Medical Society, on February 25, after Professor Oscar Liebreich had presented his communication on his new remedy for tuberculosis, reports on cases treated by the method were submitted by Drs. PAUL HEYMANN and G. GUTTMANN, and PROFESSOR B. FRAENKEL (*Berlin klin. Wochenschr.*, March 2, 1891). Dr. Paul Heymann has used cantharidinate of potash in 27 cases, in 10 of which the treatment had only just been begun at the date of the report. Of the remaining 17, 11 were suffering from tuberculous lesions of the larynx of a more or less serious nature. In all these cases the lungs were also affected, and in all except one there were bacilli in the sputum. They were all treated at the Poliklinik as out-patients, and made no change in their ordinary mode of life. The dose injected was from 1 to 4 decimilligrams; only once did the injection cause redness, but never supuration. The injections were, as a rule, given in the back, but in two cases the patients were so thin that the nates were chosen. Sometimes the injections were followed by headache and giddiness, and oc-

asionally there was slight diarrhoea, which ceased of itself. In some cases smarting in passing water was complained of, and one patient said he noticed blood in his urine after an injection of 4 decimilligrams. The following were the results of the treatment (which was in no instance supplemented by any other): After three or four injections the voice improved steadily, till hoarseness almost entirely disappeared. The patients felt much better. The bacilli, however, showed no change. In the chest the physical signs cleared up, and even disappeared in some cases; the expectoration became smaller in quantity, more mucus and less frequent; cough subsided, and in 4 cases ceased altogether; night sweats diminished, and in some cases disappeared. In one case hectic fever ceased after the fourth injection, but this result was unique. In tuberculous disease of the tongue the granulations became flatter and paler, and the ulcers became cleaner and began to heal, as is seen in syphilitic affections under the use of iodide of potassium. In one patient, who was almost voiceless and who was the subject of tuberculous ulceration of the larynx, after nine injections the ulcer had disappeared, and after three more the only abnormality in the larynx was a scarcely visible infiltration of the left vocal cord, whilst the physical signs in the chest had entirely cleared up. Another patient with catarrhal ulcers in the larynx was cured after ten injections; in three others suffering from similar conditions the infiltration and redness of the cords began to diminish as soon as the injections were commenced. Dr. G. Guttmann related the case of a patient whom he had been treating for typical trachoma in the right, and recent granulation of the left, eye. The man developed laryngitis, and was treated by Liebreich's method. When Guttmann saw him again there was no trace of inflammation in the left eye, while there was only a trifling swelling in the right. Professor Fraenkel said he had treated 15 patients suffering from laryngeal tuberculosis by the new method; 5 of these he presented to the Society. Under the treatment the redness and infiltration of the cords had steadily diminished, pain in swallowing had disappeared, œdema of the epiglottis and ary-epiglottic folds had subsided, while ulcers had gradually become smaller, and in some places had entirely healed. In one patient there was no longer any trace of ulceration.

In the cases in which the voice had been lost, it had been restored. In one patient Dr. Fraenkel had noticed the appearance of submiliary nodules which became yellow, broke down, and finally disappeared, leaving a scar in their place. In another patient there was at the date of the report a serious exudation at the level of the larynx, a fact which seemed to him to confirm Liebreich's explanation of the mode of action of

his remedy. When this patient coughed he brought up serous fluid from his larynx. The pain of the injection lasts some time, and in one case there was some difficulty in micturition after an injection of 1 decimilligram. Fraenkel thinks he has noticed a slight diminution in the number of bacilli, and the microbes seemed to have lost their reaction to coloring matters; they had to be kept in the staining solution for twenty four hours before they were sufficiently stained. The rapid improvement seen in patients submitted to the treatment was due to a direct action of the remedy on the bacilli. None of the cases could be said to be cured, but Fraenkel thinks that the most brilliant results may be hoped for from the method.—*British Medical Journal*.

SALOL IN THE TREATMENT OF DISEASES OF THE URINARY PASSAGES.—The drug has been recommended in the treatment of diseases of the urinary passages by Lejune, Neucki, Dreyfus and Sahli, in place of the balsams. DE SMET of the hospital St. Pierre of Brussels (*La Clinique*), has treated forty-seven patients with salol. Three of these patients presented arthritis with urethritis, the others were simple cases of urethritis, simple gonorrhœal cystitis with or without urethritis. A cure was noted in two of the cases with joint complications. Salol produced excellent effects but did not cause much change in the urethritis, when associated with injections it seemed to shorten the malady. It renders the urine antiseptic, as he was always able to find free salicylic acid in the urine. The patients ordinarily take the drug in quite large doses without any special derangement of the stomach or appetite. The dose should range from three to five grams daily.

Medicine.

SUSPENSION IN THE TREATMENT OF NERVOUS DISEASES.—RAULT (*Le Progrès Médical*, Feb. 28, 1891) contributes a critical review of the literature of this subject. He has constructed a table of reported cases, in which the results in 210 are given. Of these 162 were improved, and 48 unimproved. Notwithstanding the contradictory opinions that have been emitted by high authority the method seems destined to win a place in the accepted methods of treating certain nervous diseases. It is probable that further observations will limit its application to cases more likely to be benefited; its too indiscriminate use may bring a really good method into disfavor.

INJECTIONS OF DOG'S SERUM IN TUBERCULOSIS.—HÉRICOURT, LANGLOIS AND SAINT-HILAIRE (*Gazette Médicale de Paris*, Feb. 7 and 14, 1891) have presented to the Société de Biologie the results obtained by them with injections of dog's serum in the treatment of tuberculosis. The first case, by M. Héricourt, was one of well ad-

vanced pulmonary tuberculosis, with caseous pneumonia and cavities in both apices. On December 6th last the patient received one cubic centimetre of dog's serum which the writer calls "hémocyste," as being a short and convenient term. After receiving 19 cubic centimetres there was a marked improvement in the general and local conditions, the cough lessened, expectoration diminished, and a gain of eight pounds was noted in weight.

Langlois describes a case with cavities and abundant expectoration that was markedly improved by four injections extending over a period of ten days. The cough and bronchial secretion lessened and the patient gained two pounds in weight.

The case of Saint-Hilaire was one presenting marked pulmonary involvement with invasion of the larynx, night-sweats, hectic, etc. Seven injections were given extending over a period of nineteen days, the quantity of each injection varying from 1 to 3 ccm. There was appreciable increase in the patient's strength, the night-sweats disappeared, the laryngeal symptoms improved, and there was a gain of six pounds in weight.

A second was in the early stage with rough crepitant râles at the apex, some consolidation with involvement of the larynx. After eight injections the physical signs disappeared and the laryngeal symptoms improved. In this last case the sputum was examined and found to contain abundant bacilli. The writer does not say whether they were looked for after the treatment began.

The injection of hémocyste does not cause any or but slight local reaction and no general disturbance of the system. The first case mentioned by Saint-Hilaire had proved refractory to other treatment, such as creosote, etc.

Surgery.

TEST OF COMPLETE CHLOROFORM NARCOSIS.—GUELLIOT (*Journal de Médecine de Paris*) claims that the absence of the cremasteric reflex, is one of the best and readiest means of determining complete chloroform narcosis. The quickness and force with which the reaction is produced is some index of the degree of narcosis. The point seems to be one well worthy of consideration by the practical surgeon.

Obstetrics and Diseases of Women.

PARTIAL INVERSION OF THE UTERUS FROM TRIFLING CAUSES.—DR. S. REMY (*Archives de Toccol. et de Gynéc.*, February, 1891), describes two cases of inversion, the one from slight force in extracting the placenta, the second from a more passive cause. A woman, aged 32, aborted early in her first pregnancy. Hypogastric pains followed, and she soon became pregnant again. Labor occurred at term; it was rather lingering, but was left to nature. Ten minutes after the

birth of a rather heavy female child, the midwife placed her hand on the fundus and pulled gently on the cord; the placenta came away. Then the midwife found that the uterus could no longer be felt above the pubes. A large tumor filled the vagina. Dr. Remy was summoned, and came a few minutes after the accident. The patient felt queer, but there was no shock and little hæmorrhage. He could feel a part of the uterus, deeply cupped, above the pubes. By steadying this part with one hand and pressing with the back of the fingers with the other on the vaginal tumor, he succeeded in reducing the inversion, which did not recur. Inertia or weakness of the muscular tissue at the placental site had caused failure of retraction when the placenta separated, and intra-abdominal pressure forced that part of the uterus downwards into the space left by the retracting placenta. In uterine inertia clots caused by hæmorrhage no doubt check the tendency to inversion in many cases. In the second case the patient was an anæmic young lady. Several floodings followed her first labor. At the end of a month, after free dosing with ergotine, very severe hæmorrhage took place. The abdomen was flat, the uterus could not be felt above the pubes. The os was patulous and blocked by a soft presenting body covered with fetid blood. Careful bimanual palpation proved that there was partial inversion with retained fragments of placenta. The inverted surface was dressed with antiseptics. Two plugs of wool, covered with iodoform gauze, were placed against it to control the hæmorrhage. This dressing was renewed daily. Two days later two pieces of placental tissue came away. No more bleeding occurred. On the seventh day the patient was much better, the cervix was closed, the inversion had reduced itself. Fourteen months later the patient was in stronger health than she had ever enjoyed before in her life. Leucorrhœa, constant down to the end of the pregnancy, had ceased altogether. The period was regular but very scanty. The retained placental fragments had caused great congestion of the region of the uterus to which they were attached. Hence there was softening of that part of the uterine wall, the contractions causing it to be gradually drawn downwards. Such is Dr. Remy's explanation.—*British Medical Journal*.

Hygiene.

DISINFECTING POWER OF SULPHUR FUMIGATIONS.—One of our prominent surgeons once told the writer that the only value of sulphur fumigations was to destroy such unfortunate representatives of *cimex lectularius* as came within range of its influence. Notwithstanding this pessimistic view, many physicians rely upon sulphur fumigations, and in many of our hospitals it still forms one of the appropriate ceremonials at the altar of antiseptics. Undoubtedly much of the

disfavor that has met this method of late years has been caused by experimental work, in which the bacillus anthrax has been the test organism employed. The researches of THOINOT (*Annales de l'Institut Pasteur*) show that while the spore forming bacilli, anthrax, malignant œdema, etc., resist the bacilli of tuberculosis, glanders, typhoid, cholera, and diphtheria are destroyed by the action of the sulphur. The writer thinks that absolute security is assured if 60 grams are burned to each cubic meter of space with the room carefully sealed.

Bacteriology.

KOCH'S TREATMENT: EXPERIMENTS ON CATTLE.—The experiments recorded in the *British Medical Journal* of January 24th afford subject matter for very careful consideration. In three cows in which tuberculosis was undoubtedly present, as determined by physical examination and by the presence of bacilli in the bronchial mucus and in the milk and by the changes in the lymphatic glands, "reaction" was obtained in proportion to the amount of fluid injected, whilst in healthy control animals no rise of temperature was noticed. It is evident from this that whatever may be the ultimate result of treatment by Koch's fluid we have in it an agent that may prove of the greatest value in helping to form a diagnosis of tuberculous disease in cattle, and we have here an indication of the lines on which, for a time at any rate, much of the experimentation with Koch's lymph must be carried on. Some physicians and surgeons have been so unfortunate in the selection of their cases that they have already resolved that until more is known of the action of the remedy on the human subject they will be very chary indeed of using it as a therapeutic agent. The veterinary surgeons, however, will scarcely be deterred by such considerations. It is often an exceedingly difficult matter to determine whether a cow is tuberculous or not, and if these experiments are to be relied on, all that is necessary to obtain confirmation of the diagnosis is to inject some of the fluid. We can scarcely look forward to this being used as a method of treatment for the disease in cattle (except in the case of pedigree animals), but in the hands of veterinary surgeons it will prove an instrument of precision of the very highest value. It will enable them to state in all doubtful cases what animals should be condemned as tuberculous and which should be allowed to remain in the cow-house without danger of infection to the other cattle. These experiments certainly open up a most important and fruitful branch of research to the veterinary profession. And it will at once suggest itself that the consideration of this question might with advantage occupy the attention of the Royal Commission on Tuberculosis now sitting.

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, APRIL 18, 1891.

NOTICE TO THE BOARD OF TRUSTEES.

OFFICE OF THE BOARD OF TRUSTEES OF THE
AMERICAN MEDICAL ASSOCIATION,
LITTLE ROCK, ARK., April 5, 1891.

The Annual Meeting of the Board of Trustees of the American Medical Association will be convened in the parlors of the Arlington Hotel, at Washington, D. C., on Saturday, May 2, at 10 o'clock A.M.

P. O. HOOPER,

JNO. B. HAMILTON, Prest. of the Board.
Secretary.

THE TURKISH BATH AS A REMEDY.

For over a thousand years the hot-air, or Turkish bath, has been used both as a luxury and therapeutic measure. Thirty years ago MR. URQUHART, DR. ERASMUS WILSON, of London, and others, described and urged the bath as a remedy for many diseases; and since that time it has been slowly coming into practical use, and is now recognized as a remedy of positive value.

While it has been very largely in the hands of irregulars, who have claimed the most extravagant therapeutic powers, whenever it has been used in scientific medicine it has been retained and adopted as invaluable. In Europe many government asylums and hospitals have the most elaborate baths, and sanitariums and private hospitals for chronic diseases depend on the bath as a remedy. In this country much indifference prevails. Except in a few sanitariums and public baths in the large cities, it is almost unknown; yet writers and men of practical experience are always warm defenders of its powers and virtues.

The number of persons who use the bath as a preventive of disease among the laity are increasing constantly. The scientific reason is no doubt to be found in the fact that copious perspiration in the high, dry temperature of the hot room is a powerful eliminator of effete and poisonous matters from the system. The excessive stimulation of the cutaneous circulation is also of great value in relieving obstructions and congestions in both the glandular and circulatory systems. The marked change and relief which follows the use of this form of bath is due to the profound diversion and equalization of the fluids of the body.

The massage which follows the excessive forced perspiration is a muscular tonic of equal value. Experience proves most conclusively that free, artificially produced perspiration is not followed by exhaustion, and also that the three stages of the bath—the sweating, shampooing and the final cooling, are all true physiological processes. Thus the combined impetus of the shampooing and the heat stimulates powerfully the nervous, vascular and absorbent systems. To supply the waste of fluids eliminated by the skin, the cutaneous system of blood-vessels draw upon the internal trunks, thoracic, abdominal and cerebral. The exalted condition of the circulating, nervous and glandular systems, induced by friction, augments the vital force, restores the balance in obstructive disorders, and promotes secretion and absorption. With each muscle, nerve and blood-vessel, thus stimulated, the results are greater tone and vigor.

The class of cases from which the most benefit will be obtained by the baths are the rheumatics, the neuralgics, and those suffering from malaria, blood-poisoning and general plethora. Another large class who are frequently under the physician's care, are those who are over-fed, and who do not exercise properly, or are underworked.

Often they are brain and office workers who do not go out in the open air much, and rarely have any muscular exercise, but eat heartily. Another class of cases become exhausted and suffer from mental anxiety, overstraining the nervous system; continuous care, worry and excitement bringing on all forms of functional nerve disturbances.

All these cases are chiefly prominent in defective secretions and irregularities of the bowels

and skin. Digestive disturbances and temporary congestions of all sorts come and go. The heart is irregular in its action; murmurs and sounds are heard, which, although formidable at the time, disappear in a few days. Both albumen and sugar appear in the urine, and disappear in a few days. Often these cases furnish symptoms at different times of very serious diseases, and the recent graduate, or the unthinking specialists, are surprised to find their most positive diagnosis fail, while some elderly practitioner, supposed to be far behind the front line of exact science, will step in with a strong cathartic, and, perhaps, an old-fashioned henlock sweat, and all the grave symptoms pass away. These cases go from one physician to another, and are the object of much anxiety and professional unpleasantness both in and out of the regular profession. They are supposed to be incurable and finally go to a sanitarium where the Turkish bath is the chief remedy, or to some city public bath, and rapidly recover; frequently giving credit for the cure to some proprietary medicine, which was accidentally used at the last moment. If the family physician had understood the value of the bath, and prescribed it, his reputation would have been unimpaired.

Where the baths are not accessible away from large cities, sanitariums must supply the want. Country and village physicians who have large houses could, at a trifling expense, have a bath, which would not only bring substantial returns financially, but would increase their power, and enable them to cure many cases now thought incurable. There can be no doubt that the Turkish bath will be largely used in every town and village of the country by physicians in the near future. Simply because it is a great natural means of restoration, and along the line of physiological processes.

The Turkish bath belongs to rational therapeutics and should be rescued from the realm of quackery and studied and used on scientific principles. It is also evident that hot air, high heat, water and massage are most powerful agents in disease, and should not be confined to hospitals and large establishments, but should be made available for every physician, in some form or other. In Europe the Turkish bath is attracting increased attention, and a number of excellent papers on the value of the baths in certain diseases have appeared.

Practically the Turkish bath has been used in principle, in the various sweats common in domestic medicine. If to this had been added expert rubbing and shampooing, and careful after treatment, the result would have made this means very prominent as a method of treatment.

The public seem to more fully appreciate the use of the bath than medical men, and this is a most serious mistake. They should be the advisers and authority on this remedy. They should know what class of cases would receive the most benefit from these baths, and advise them. The baths in large cities should be under the care of scientific men, who would give a thorough study of the cases and the effects of the baths. In smaller towns the family physician could do this. If this was done the present confusion of theory and experience would give way to established facts, and the Turkish bath as a remedy would take its place among the great therapeutic agents, of priceless value in the prevention and cure of disease.

THE INCREASE OF OUR MEMBERSHIP.

The permanent enlargement of our Association must depend upon the value of the returns which it will be able to make to its individual members. It must be made able to so compensate men, that once they become members they will remain such, else, when convenient, they will maintain their membership, but when at all inconvenient they will forfeit it. This has been the history of the Association for the last forty years. It is at this point, it is to be hoped, that THE JOURNAL is coming to our help, and will hold many to a permanency which might not be otherwise secured. When it comes to be an everywhere acknowledged fact that THE JOURNAL is worth, to the masses of the profession, much more than its cost, there will be a two-fold reason for one's maintaining his membership. Just in proportion as men come to appreciate the advantages to be derived from attendance at its annual meetings, and to value its accredited organ as a medical journal, to that extent may we look for permanency in the membership of the Association. That THE JOURNAL is thus asserting for itself a place is evident from the fact, that nearly one thousand men are receiving it upon subscription, although they have no relation whatever with the Associa-

tion. There is no reason why its value may not be more and more developed until THE JOURNAL shall become *the* great centralizing and unifying power in our medical profession.

The permanent attractive influence, which more than all others shall draw men year by year to our annual meetings, must centre in our Sections. We shall stand or fall, as these shall or shall not give to the profession such returns as shall well repay, for the labor and expense incident to attendance at the annual meetings. It is absolutely essential to our permanent growth that the Sections be made as nearly perfect as possible in their organization, and that they command the best of talent, not only to interest those present but, through the medium of THE JOURNAL, to profit the thousands who must necessarily be absent. Give to the medical profession of America value received and they will come to be enrolled in the membership just as fast as they come to know the worth of the Association to medical men.

The next question to be considered is that of more fully acquainting physicians with the Association and bringing them into such relation, that they shall rightly appreciate its value. It need not be a matter of material expense, according to the present rule, for any regular physician to become a member of the American Medical Association *by application*. It is a first essential that he be an accredited member of some local medical organization which is in affiliation with the Association. It is competent for the president and secretary of that local society to so certify, and with their certificate of his standing he has simply to inclose with his application for membership a fee of five dollars, and he will be duly enrolled and will receive THE JOURNAL without additional expense, so long as he shall continue in good standing with his local society and shall pay his annual dues. Thus it is possible for physicians all over this broad land to become members by application, and to receive THE JOURNAL regularly, upon the payment of this small fee, without ever incurring the expense, unless they shall so choose, of an attendance upon an annual meeting; and yet we are confident that the influence of THE JOURNAL will bring the great majority of these into active membership as time goes on.

Again, we trust the time is not far distant when in some desirable way there may be such a unison of the State Societies with the Association that

each member of a State Society, by reason of that relation, will also be a member of our National Organization. We believe this to be feasible; we believe it to be eminently desirable. We hope, therefore, that the resolution offered at the last session by DR. CULBERTSON, of Cincinnati, and which will be called from the table at the coming meeting, will receive, on the part of our members, the serious consideration which we believe the subject deserves, and that it will be referred to an able committee who shall give it full consideration, the results to be embodied and submitted, in the form of a report, to the Association at a subsequent session.

Is it too much to anticipate the time when this National Association shall represent the entire membership of all our State organizations? We are building for the future needs of a mighty Empire. Let us build largely, wisely and well.

It is surely safe for the Association to refer this subject and that of the development of the Sections, to which we alluded last week, to an able and representative committee, who shall consider most carefully the subjects so referred, and with instructions to submit such report at the next annual meeting.

QUESTIONS OF IMPORTANCE TO THE MEMBERS ANSWERED.

We have received the following letter from DR. FRED. J. PARKHURST, of Danvers, Ill.:

To the Editor:—There is a great amount of ignorance prevailing in our section of the country in regard to the present Editorial management of THE JOURNAL. This will be a subject of great importance to the members of the Association when they come to prepare their ballots on the question of moving THE JOURNAL to Washington. By answering the following questions I am sure you will confer a favor on a large number of the members of the Association who are at present ignorant of the facts:

1. Who is the present Editor of THE JOURNAL and how long has he occupied the position?
2. Has Dr. N. S. Davis at present any official connection, either editorial or otherwise, with the management of THE JOURNAL?
3. What is the date of Dr. Davis' resignation as Editor-in-Chief of THE JOURNAL?
4. Was Dr. John B. Hamilton Editor of THE JOURNAL at one time? If so, for how long?

FRED. J. PARKHURST, M.D.

Dr. N. S. Davis was Editor-in-Chief of THE JOURNAL until Jan. 1, 1889. Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital

Service, was Editor-in-Chief, from January 1, to February 1, 1889. Dr. N. S. Davis, at the request of the Board of Trustees conducted THE JOURNAL from February 1, 1889, to May 1, 1889. The Secretary of the Board of Trustees, Dr. John H. Hollister, was then made Supervising Editor, and has acted in that capacity up to the present date.

EDITORIAL NOTES.

TREATMENT OF TUBERCULOSIS WITH VACCINE LYMPH.—As a further indication of the stimulus given to the experimental medical world by Koch it may be mentioned that a New York physician, Dr. J. Hilgard Tyndale, has announced, before the New York County Medical Association, March 16, 1891, the results obtained upon twenty-three patients from the hypodermic use of bovine vaccine lymph. Dr. Tyndale divides his tuberculous cases into four classes, viz.: 1. Those in whom the general condition is good, the local lesion limited and just beginning to be active. 2. Those in whom the general condition is below par and the local lesion not great. 3. Those in whom constitutional impairment is grave and the local destruction advanced and disposed to be active. 4. Those in whom the local lesion is extensive but not active, and the general condition reasonably good.

The writer believed that investigators were on the right track in seeking to overcome this disease by hypodermic inoculations of animal virus or chemical substances of marked toxic effect. In using the vaccine lymph he had made one injection every six or seven days. There was no active reaction. Benefit had shown upon all the symptoms, both subjective and objective.

Other measures of relief, such as tonics, lung gymnastics, etc., were not discarded, but were withheld until benefit from the lymph was well established.

The author believed that more than one animal lymph, or chemical intoxicant, would be found to have an abortive influence upon the tuberculous process, and that his experiments thus far with vaccine lymph demonstrated the correctness of the assertion. Nine of the patients upon whom this method of treatment had been tried, were presented before the meeting.

In this connection we are led to say that scarcely a day passes without new knowledge

coming to us of patient and conscientious research along this new path, and the world at large is waiting to place the very highest honors upon those results which break the force and destroy the power, not alone of this mighty disease—tuberculosis, but those of like nature as well. No one can fight, in this manner, with success, against disease as a unit, but in specific directions, and with that stern singleness of purpose which so marks our discoverers, the possibilities of future medicine are scarcely to be measured.

INFLUENZA IN NEW YORK CITY.—The medical press now chronicles the occurrence of influenza in the metropolis, though in not as severe or general a form as maintained a year ago. Chicago's Health Commissioner is quoted as claiming that it is not so much the influenza which that city has of late been afflicted with, as a lack of the disease-opposing virtue of bright, clear sunshine. The month of March was particularly gloomy and cloudy, and the uncleaned atmosphere therefrom tended to rapidly precipitate untoward conditions in existing diseases of the respiratory system, as well as to predispose the onset of such affections.

APPENDICITIS.—This subject is still a favorite one among surgeons, really occupying quite the first position in the great field of surgical discussion. The appendix is but a small portion of the human anatomy, and yet it appears that it has a wonderful significance which in the past did not receive that degree of attention it, in the light of our present knowledge, merited. In a very short time a great advance has been made by surgeons along this line. In the last number of the *Annals of Surgery* almost sixty pages are devoted to this subject of appendicitis, consisting of five papers by as many authorities in this branch.

PARKIN PRIZE, ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—The late Dr. John Parkin, Fellow of the Royal College of Physicians, Edinburgh, left a bequest of one hundred pounds sterling for the best essay, "On the Curative Effects of Carbonic Acid Gas or other forms of Carbon in Cholera, the different Forms of Fever, and other Diseases." The prize is open to competitors of all nations. Essays intended for competition must be written in the English language, and must be received by the Secretary, Dr. G. A.

Gibson, not later than December 31st, 1892. Each essay must bear a motto, and be accompanied by a sealed envelope bearing the same motto outside and the author's name inside. The successful candidate must publish his essay at his own expense, and present a printed copy of it to the College within three months after the adjudication of the prize.

NEW YORK ACADEMY OF MEDICINE.—The property of this great and representative medical body is now valued at \$400,000, with a debt of only \$30,000.

COLORADO FOR CONSUMPTIVES.—Notwithstanding the possibilities which have been looked for, and hoped for, from tuberculin, there continues even an increased interest in the beneficial influences of the Colorado climate. Much information is advanced to show that factors undeniably dwell in that region which exert a wholesome, and many times curative, effect upon wasting diseases, notably phthisis.

THE OPHTHALMOSCOPE IN NERVOUS DISEASES.—Dr. G. Sterling Ryerson, Professor of Ophthalmology in Trinity Medical College, Canada, arrives at the following conclusions under the above heading: 1. That diseases of the brain and spinal cord are frequently associated with ocular disturbances. 2. That serious eye trouble may be present without subjective symptoms. 3. That eye troubles often precede and give warning of impending nerve disease. 4. That disease of the optic nerve and retina are of great diagnostic value in nervous diseases. 5. That it is the duty of the physician to examine the eye and its muscles in all cases of nervous diseases.

THE RESULT OF MEDICAL LEGISLATION IN NEW YORK.—In the State of New York there is now a compulsory three years course of study, prefaced by a compulsory preliminary examination, and ending by an independent examination for a license to practice before a Board of Medical Examiners appointed by the State.

A FULL MEETING ANTICIPATED.—By reason of its location the next meeting will be largely attended by gentlemen resident in the East. By no means let the West, the South-west, or the South, fail of their full quota of delegates and members. We anticipate that the coming meeting will be the largest one in the history of the

Association. Questions of unusual interest are to be considered and it is important that every portion of the country should be fully represented. What we say to one we say to all, GO!

SMALL-POX IN ST. LOUIS.—A slight epidemic of this disease is reported to have been in progress in St. Louis during last month. Every precaution was taken, however, and a prompt limitation was enforced. As so often occurs, the exact origin cannot be clearly ascertained.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.—The meetings of the Congress of American Physicians and Surgeons will be held in Washington from 3 to 6 P.M., September 22d to 25th, 1891. William Pepper, of Philadelphia, is Chairman of the Executive Committee.

THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS.—The Annual Meeting of this Association will convene at Buffalo, April 30, and be in session for four days. This important organization is assuming immense proportions, and the meeting at Buffalo bids fair to be one of exceptional interest. The date of the meeting is so arranged that large numbers of its members are preparing to go from there to the meeting of the American Medical Association at Washington. Why not go bodily, and give the Association such an accession as it never received before. First to Buffalo, gentlemen; then on to Washington.

THE TENTH CONGRESS FOR INTERNAL MEDICINE was held in Wiesbaden from April 6 to 9. Among the more important subjects discussed was Koch's method of treating tuberculosis of the lungs and other internal organs.

DR. EUGEN JENDRÁSSIK, professor of physiology in the University of Buda-pest, is dead. He was widely known as a contributor of scientific monographs. He invented a myograph of practical utility and also describes a method of reinforcing the reflexes of the lower limbs, that is generally known by his name.

MEDICAL ITEMS.

A PARISIAN MEDICAL LIBRARY.—The library of the Paris Ecole de Médecine, which contains some 40,000 volumes, will shortly be transferred to its new quarters overlooking the Boulevard Saint Germain. The new building contains a large room with places for 150 readers, and other

smaller rooms where anatomical models, etc., will be open for the use of students. A special section will be reserved for a collection of autographs of the Deans of the Faculty from 1324 to 1789.

A LARGE BRAIN.—Wilson (*Edin. Med. Jour.*, January, 1891) reports the removal of a brain which weighed 64 ozs., in the post-mortem room of the Royal Edinburgh Asylum, from a man 75 years of age, 5 feet 10 inches in height. The circumference of the head was 24 inches. The brain was very anæmic, contained hardly any fluid, and was put on the scales immediately after removal. It was described as "large vertically, well-shaped all over, with convolutions if anything larger than normal, and sulci wide over the vertex, except the occipital."

The man's intelligence seemed to have been above the level required for his work as a sawyer, but was never of a high grade.—*N. Y. Medical Journal*.

THE NEW POLYCLINIC.—The handsome new building of the Philadelphia Polyclinic, on Lombard Street, west of Eighteenth, was formally opened April 2 by Lieutenant-Governor Watres as a charitable institution of the State. In making the formal transfer of the building to the trustees, Dr. Thomas S. K. Morton, chairman of the Building Committee, said: "The importance of this occasion to the city and State cannot be overestimated, for it is the establishment of a unique medical school, and all the undergraduate medical colleges send their representatives with greetings to the successful launching of this institution."

DR. SIEBERT has resigned the editorship of the *New Yorker Deutschen Medicinischen Monatsschrift*, and Dr. Heppenheimer has been appointed to fill the vacancy.

THE FATTEST MAN IN THE WORLD is said, by the *St. Petersburg Med. Wochensh.*, to live in Danville, U. S. A. His name is Mr. John Hansen Craig, is 35 years of age, and weighs 907 American or 925 Russian pounds.

HERNIA AMONG RUSSIAN ARMY RECRUITS.—It is stated that in Russia among the Jewish youth, who are subject to conscription for military duty, they have a secret plan for the self-production of inguinal hernia, in order to bring about rejection by the medical examiners. An instrument re-

sembling the ordinary glove-stretcher is used as a means for the gradual dilatation of the inguinal canal.

ANALYSIS OF "ANTIKAMNIA."—Professor C. M. Ford, of Denver, has reported that the above is a mechanical mixture of acetanilid 85 parts and carbonate of soda 15 parts. The presence of the latter will explain the effervescence complained of by several pharmacists when acid preparations, such as wine of pepsin, have been added to the antikamnina.

Two Chinese physicians, Drs. Chon-yuan-yeh and Cheng-bhi piao, have been sent by their Government to Berlin, for the purpose of studying the results obtained in the use of Koch's lymph.

PHOTOGRAPHING IN COLORS.—The recent announcement, which is producing such interest in the general scientific field, may well receive the attention of the great medical body. The value of this discovery will be felt, in no small degree, by those engaged in medical research; and to the surgeon, pathologist, microscopist, physiologist, *et al.*, the force of demonstrations will be increased by the application of this means.

MEDICAL AND SURGICAL COLLEGE OF NEW JERSEY.—The above was the title assumed by a so called institution of medical learning which had its local habitation on Montgomery street, in Jersey City. The last edition of "Polk's Medical Directory" contains a card setting forth some of its claims and a list of its faculty in 1890. The said college no longer exists. The New Jersey State Board of Medical Examiners has caused the introduction of a bill repealing the charter of the school before the legislature now in session, and the bill has been passed and signed by the Governor. Dr. W. P. Watson, Secretary of the State Board, has been influential in bringing about the desired result, and he with other members of that Board are to be congratulated upon their success in ridding their State of a concern having strong points of resemblance to one of the old-time Buchanan diploma mills.

A PROPER RECOGNITION.—Dr. Edith Pechy-Phipson, appointed a member of the senate of Bombay university for her public spirit in speaking against child marriage in India, was one of the first women to take the medical course of Edinburgh university, which she entered in 1869.

TOPICS OF THE WEEK.

HYPNOTISM.

An interesting article appears in the *British Medical Journal* of March 28, from the pen of Mr. Ernest Hart. He sums up in the following words his general conclusions: To sum up then in a few words the actual state of the question, an impartial observer might, in my opinion, conclude that hypnotism is a pathological modification of the nervous system, which always indicates that the subject belongs to a neuropathic class. The complete and typical form of hypnotism described by Charcot is rare. Suggestion plays a considerable part in hypnotic phenomena, but there are somatic phenomena which are independent of it. Hypnotism may frequently be dangerous, and very rarely useful. It may be the cause of crime, or of mental disorder; it can really cure no disease not more easily curable by simpler and less dangerous methods. A considerable number of facts attributed to it which have most impressed the public imagination, such as the actions of medicines at a distance, the so-called telepathic communications or communications made without speech, and the *clairvoyant* phenomena sometimes described, are mere errors of experiment arising from insufficient precautions and a too vivid imagination. Precisely those phenomena which have been most publicly talked about and excited most interest in "psychical circles" so-called, are the least real. The hopes which the therapeutic hypnotist aroused have not been realized, and any expectations of producing by hypnotic methods any desirable moral or mental effect rest upon a totally inadequate basis of fact, and are far from being promising.

BACTERIA PROTEINS AND THEIR RELATION TO INFLAMMATION AND PUS FORMATION.

Dr. H. Buchner gave last year three lectures on the relation of bacteria proteins to the inflammatory and pyogenic process, in which he said that it is generally supposed the proximate chemical cause of inflammation and formation of pus is the presence of decomposing substances, the chemical produce of bacterial cells; but that ptomaines and toxins, and even toxalbumens, are pre-eminently nerve poisons, and in only a few of them, as in cadaverin and putrescin, can a pyogenic effect be traced as well. These substances do not, therefore, explain the inflammatory and pyrexial character of most infectious processes, including suppuration, especially as Lange and Roemer have proved by their experiments that no decomposing substances have any considerable affinity for leucocytes. Substances having such affinity, however, do exist, according to the author, and he has already referred to them in a previous publication. They are parts of the bacillary body, that is, of its plasma—namely, the so-called bacteria proteins, which Nencki had already studied in 1880 without imagining their great pathological importance. Dr. Buchner has shown by his experiments that bacteria proteins have the strongest affinity for leucocytes, and that in man they also have an intensely inflammatory effect. A hypodermic injection

of a few milligrams of the protein of bacillus pyocyaneus caused an inflammation which, though non-infectious and free from bacilli, and almost deserving the name of chemical inflammation, presented all the clinical symptoms of erysipelas with lymphangitis; the course of this inflammation is, however, more rapid and more benign, and the general state of health is little disturbed. The author considers that the proteins can exercise their activity only when they have been secreted from the bacterial cell, and that this secretion takes place exclusively when the cell is in "involution"—that is, dying, or at any rate morbidly affected. This also explains why in anthrax of rodents, when virulent bacilli are indefinitely increased in the blood and never die, there is no sign of inflammatory leucocytosis, while a hypodermic injection of very weak or even completely sterilized anthrax culture has a strong pyogenic effect in the same rodents. Of seven different bacilli which the author has been able to experiment upon the proteins of the typhus bacillus seem particularly effective. It is very easy to obtain the protein of Friedländer's pneumonia bacillus, and still more so that of the bacillus pyocyaneus. The protein has the same chemical reaction as all albuminoids, and most nearly approaches in that respect vegetable caseins. The author subsequently experimented on vegetable caseins, especially on the gluten casein of wheat, and the result was remarkably similar to that of experiments with bacilli.—*Lancel*.

DOCTORS AND POLITICS.

It is not generally known, says the *San Francisco Chronicle*, that Marat, the Revolutionist dispatched by Charlotte Corday, was a physician, and that he had a certain success in treating consumption. It is recorded of him that he cured a titled lady of this disease in its advanced stages, and that her gratitude to him knew no bounds. Unfortunately he was enticed into politics and prevented from pursuing his studies further in a direction that might have made his memory revered instead of detested.

For some reason doctors seem to drift naturally toward politics and radicalism, perhaps because their profession tends to render them skeptical. In Brazil and the Argentine Republic they have shown themselves decidedly ambitious. The celebrated Dr. Charcot is a radical whose principles verge on the revolutionary. Clemenceau gave up his medical practice years ago to devote himself to politics, and though he is a man of great talent and a brilliant orator, his political efforts have not contributed to his personal advancement or been of great benefit to his country. Besides Clemenceau there are from forty to fifty physicians in the French Chamber of Deputies.

ASSOCIATION OF AMERICAN PHYSICIANS IN BERLIN.

There has been formed in Berlin an association under the above title. Dr. Judson Dolland, of Philadelphia, was elected President; Dr. F. Weber, of Milwaukee, Secretary; Prof. Miller, of Philadelphia, Dr. Amos, of Iowa, Dr. H. Douglas, of New York, together with the President and Secretary, were elected as a Committee on

Constitution. Dr. H. R. Brooks, of New York City, Dr. Louis Frank, of Louisville, Dr. Crystal, of Baltimore, Dr. Neal Mitchell, of Florida, Dr. Marple, of New York, and Dr. Kennedy, of Montreal, were appointed a Committee on Information to New-Comers and on Organization of Special Private Courses.

The principal objects of this association are: 1. The arrangement of medical work and the formation of special private courses, so that any desired instruction may henceforth be obtainable at this University. 2. The giving of advice to new-comers regarding instruction, lodging, books, instruments, etc. 3. The reading and discussion of papers of general interest, exhibition of patients and demonstration of specimens in all lines of work taken up by members. 4. The furthering of mutual ends by a more extended acquaintance of the physicians here.

We doubt not that this organization of American physicians sojourning for a period in Berlin will be found to be helpful as well as pleasant.

THE NEW PATHOLOGICAL DRAMA.

The modern novel has accustomed us to the interweaving of physiology and pathology with romance. The introduction of these sciences into the drama is quite a new and wholly unwelcome departure. A week or two ago, at the Royalty Theatre, the elect who hail Heinrich Ibsen, the Norwegian dramatist, as the new Shakespeare, contrived, by means of a "subscription representation," to elude the authority of the Lord Chamberlain, and produced to a crowded house Ibsen's much talked-of play, *Ghosts*. The theme is heredity. After an instructive discussion between his mother and a clergyman on free sexual relations, Oswald Alving, the hero, is overheard in an adjoining room making advances to her pretty servant in a manner more suggestive than decorous. The maid in question turns out to be his own half-sister, and Oswald at once proceeds to discuss the rectitude of that relationship countenanced by the Pharaohs, but is happily cut short by brain disease, the result of inherited syphilis, in a manner which may be deemed natural by the playwright, but which is wholly unknown to the physician. The question of the desirability of shortening his days by poison is under consideration when the curtain falls. To take all the disintegrating views of viewy people, to make them become self-conscious in plain John and Betsey, and operative on their lives, to adorn this "psychological study" with a quasi-scientific exactitude, as absurd and untrue as it is pretentious, is the rôle of the new great realist. There is some stagecraft, but the dramatic pamphleteer is much more apparent than the artist. It is sadly to be feared that the sanity of true genius has not appeared in this latest fad of staging grotesque pathology and ethical Nihilism. To the strict scientist such a play is an amusing travesty; to the moralist it is portentously significant. From the purely literary point of view, it would be well if admirers of novel genius should adopt Matthew Arnold's advice, and carry about with them a gem or two of the true masters to serve as touchstones in distinguishing the spurious and ephemeral from the enduring and truly great.—*British Medical Journal*.

PATHOLOGY OF GRIEF.

That severe mental distress or fright sometimes produces physical disease, and occasionally even death, is an admitted fact, although the way in which it acts has hitherto been but little studied. In order in some measure to supply the deficiency in our knowledge regarding this matter, Dr. G. Bassi has recently made a number of observations on animals which apparently died in consequence of capture. Birds, moles, and a dog which had succumbed to conditions believed by Dr. Bassi to resemble those known amongst human beings as acute nostalgia and "a broken heart" were examined post-mortem. Generally there was hyperæmia, sometimes associated with capillary hæmorrhages of the abdominal organs, more especially of the liver, also fatty and granular degeneration of their elements, and sometimes bile was found in the stomach with or without a catarrhal condition. The clinical symptoms were at first those of excitement, especially in the birds, these being followed by depression and persistent anorexia. The theory suggested by Dr. Bassi is that the nervous disturbance interferes with the due nutrition of the tissues in such a way as to give rise to the formation of toxic substances—probably ptomaines—which then set up acute degeneration of the parenchymatous elements similar to that which occurs in consequence of the action of certain poisonous substances such as phosphorus, or to that met with in some infectious diseases. In support of this view, he points out that Schule has found parenchymatous degeneration in persons dead from acute delirium, and that Zenker found hæmorrhages in the pancreas in persons who had died suddenly; he refers also to some well-known facts concerning negroes in a state of slavery and to the occasional occurrence of jaundice after fright. He hopes that these hints may induce medical officers of prisons and others to study both clinically and anatomically this by no means uninteresting or unimportant subject.—*The Lancet*.

BIOLOGICAL ACTION OF IRON AND MANGANESE.

Dr. Fausto Faggioli has published in a recent issue of *La Riforma Medica*, some notes of a research upon the physiological behavior of iron which he has carried out, with Professor Pellacani's assistance, in the Bologna laboratory of Forensic Medicine. From these it would appear that iron enjoys the property of setting up mitosis or nuclear change and cellular increase, especially in cultures of unicellular organisms such as protozoa. Under some circumstances manganese will act in the same way, but Dr. Faggioli was unable to find that any other metal could do so.

AMERICAN DENTAL ASSOCIATION.

The executive committee have decided on Saratoga Springs as the next place of meeting of the American Dental Association, commencing first Tuesday in August, 1891. It is hoped by the committee that each society will send delegates, that there may be a full representation from all parts of the country. J. N. CROUSE, 2231 Prairie Ave., Chicago, Ill., is Chairman of the Executive Committee.

PRACTICAL NOTES

PRESCRIPTION OF CHLORALAMID.

Galiana recommends the following prescription when using chloralamid :

- R. Chloralamid, 45 grains.
Dilute hydrochloric acid, 5 drops.
Distilled water, 2 ounces.
Syrup of raspberry, 2½ drachms.

One-half of this amount may be given. This may be divided into four doses, one of which may be given every four hours. For rectal injection he recommends :

- R. Chloralamid, 30 grains.
Dilute hydrochloric acid, 3 drops.
Distilled water, 3 ounces.

Or the chloralamid may be dissolved in an infusion of tea to which should be added a considerable quantity of sugar.—*Medical News*.

PILOCARPINE IN GLAUCOMA.

Drs. Saint-Germain and Valude (*L'Union Med.*) recommend the following :

- R. Pilocarpine, 4½ grs.
Aq. destil., 2½ drs.
℞ ft. collyrium.

This collyrium is employed alone, or in alternation with a solution of eserine, in glaucomatous conditions of children, when eserine does not agree with the patient.—*The Prescription*.

PRURITUS HIEMALIS.

Corlett recommends the following topical applications in "winter itch" :

- R. Resorcin, 5j.
Glycerin, 5ij.
Aque, ad. 5iv. ℞.
Sig. Apply.
R. Menthol, 5ijss.
Glycerin, 5ij.
Aque, ad. 5iv. ℞.
Sig. Apply.
R. Ichthyol. ammon. sulph., 5j. to ijj.
Glycerin, 5ij.
Alcohol, aa q. s. ad. 5iv.
Aque, aa q. s. ad. 5iv. ℞.
Sig. Apply.

—*Boston Med. Journal*.

SALICYLATE OF SODA AS A CHOLAGOGUE.

Prof. Germain Sée in an article on hepatic colic, published in the *London Lancet*, calls special attention to the use of salicylate of soda, which he has found to be the most efficient of all cholagogues in promoting the expulsion of gall-stones. The well-known cholagogues were found worthless in this ailment, for they stimulate the biliary secretion by increasing the solid elements, which is not desirable.

Salicylate of soda stimulates the biliary secre-

tion by increasing its fluid element, which is the principal indication in the expulsion of gall-stones.

The cholagogue property of salicylate of soda was made known by Rutherford, but has not received much attention; with the additional recommendation of Prof. Sée, supported by his vast clinical experience, the remedy should be considered worthy of trial.—*New Remedies*.

SALICYLATE OF MERCURY.

For hypodermic injections Vacher uses the following solution :

- R. Hydrarg. chloridi corrosiv., 1 part.
Sodii salicylici, 2 parts.
Aque destil., 100 parts. ℞.

In this solution each cubic centimeter contains one centigram of salicylate of mercury. For use by the mouth a 1-1000 to 1-5000 solution should be used.—*Deutsche Med. Woch.*

TREATMENT OF TINEA TONSURANS.

Simpson (*Med. Analectic*) has had excellent success with the following treatment for ringworm of the scalp and body : Cut the hair short and wash the scalp well with tincture of green soap, and apply the following solution with a camel's hair brush :

- R. Hydrargyri chlorid. corrosiv., gr. j.
Collodii, 5j. ℞.

This treatment may be recommended for three reasons :

1. The corrosive sublimate destroys the fungi.
2. The ether of the collodion penetrates to the root of the hair, conveying the corrosive sublimate to the seat of the disease.
3. The film formed by the collodion shuts off the supply of oxygen to the fungi and thus helps to destroy them.—*Pittsburgh Medical Review*.

RINGWORM.

Ringworm of the body is generally very amenable to treatment, judging from the numerous domestic remedies which act so successfully. Sometimes, however, an obstinate case is encountered and recourse is had to the physician. In such cases a rapid cure is desirable, and the application of the following, once daily, for two or three consecutive days, will generally prove successful :

- R. Hydrarg. bichloridi, gr. ij.
Tinct. benzoin co., 5j. ℞.
Paint over affected parts.

Care should be exercised not to paint too large a surface, as the above mixture is toxic. If an excoriation exists it should not be applied, as it is irritating to the wounded integument.—*Medical Chips*.

SOCIETY PROCEEDINGS.

Gynecological Society of Chicago.

Regular Meeting, December 19th, 1890.

THE PRESIDENT, W. W. JAGGARD, M.D., IN THE CHAIR.

[Abstracted for THE JOURNAL.]

EXHIBITION OF SPECIMENS.

a. Polypoid Myoma. DR. C. T. PARKES presented a moderate-sized tumor removed from the vagina of a patient about 50 years old. Upon examination the pelvis was found blocked with a tumor, which showed signs of decomposition. There was no history of the discharge of the tumor from uterus into the vagina, and no history of severe bleeding. On further examination under anæsthetics a long pedicle was found attached to anterior uterine wall. Upon severing the attachment the mass was delivered.

b. Pregnant Uterus with Fibroid Tumor. Specimen presented of pregnant fibroid uterus at four-and-a-half or five months. At time of operation mass filled the abdomen as completely as pregnancy at full term. Saw patient after she had suffered severely for two weeks with pain, high temperature, considerable peritonitis, etc., indicating that interference was necessary. Pregnancy had been diagnosed previously. Two distinct tumors were evident on palpation. Examination showed pregnancy, and an operation was deemed best, which was done, pedicle being treated by extra peritoneal method. Patient recovered entirely in four weeks.

DR. JAGGARD inquired the nature of the first tumor, and whether it was thought to originate in uterus or vagina.

DR. PARKES said it was diagnosed before the operation as a submucous fibroid of the uterus. Pedicle could yet be felt coming out of cervix, and at time of operation it was found attached high up on anterior wall.

TUBAL PREGNANCY WITH TWO OVA IN SAME FALLOPIAN TUBE.

DR. CHRISTIAN FENGER offered specimen of tubal pregnancy in second month. Rupture of sac caused much bleeding in peritoneal cavity. Rupture occurred at 4 A.M., and operation was done at 11 A.M. Patient was almost pulseless, and had all signs of dangerous hæmorrhage. It was the left tube, and on opening abdomen large clots and much liquid was found. Upon exploring the tubal pregnancy was found to be hanging out of ovum, and another oval body was also discovered. Patient made a good recovery. The principal point in case was the two ova, one degenerated, both in same tube. Degenerated ovum was cystic, one and one-quarter by one inch in diameter. Second ovum was ruptured and con-

tained fœtus attached by umbilical cord to inside of ovum. The cystic ovum was on uterine side of ruptured one.

VELAMENTOUS INSERTION OF THE CORD.

DR. A. H. FOSTER reported case of a woman, aged 26, confined in October. Tedious and painful delivery; considerable hæmorrhage at and immediately following accouchement; child normal. Placenta was easily expelled. Cord entered membranes opposite placenta, and dividing and spreading passed to one margin of placenta, where it divided into still more branches running across its surface. One large vein was ruptured.

HEMICEPHALUS WITH HYDRAMNION.

DR. FOSTER also presented the following:—Patient having passed through a number of confinements became depressed and melancholy, and was found to have sharp anteflexion with cervical catarrh, which upon correction improved her condition, though not restoring her fully. Pregnancy was advised and sought. Upon conceiving she at once became greatly benefited. Towards end of term her large size caused discomfort and some anxiety. At time of rupture of membranes a profuse discharge of water took place, and a few strong pains expelled a hemicephalus dead fœtus of about seven months. Shoulders presented. Patient made a good recovery, and is in better condition than for two years previously.

DR. W. W. JAGGARD remarked that the cases were of interest. The hemicephalus case is a typical example of cranio rachischisis. These creatures are not viable, and commonly present by the head. The second specimen is most typical.

LAPAROTOMY FOR EXTRA-UTERINE PREGNANCY TWO MONTHS AFTER DEATH OF FŒTUS AT TERM.

DR. C. T. PARKES presented specimen of entire sac and fœtus removed from a case of extra-uterine pregnancy two months after child's death at term. When removed child was macerated, and showed evidence of decomposition. Sac easily broke down, especially at upper part. A portion of sac was within pelvis. Thickness of sac in places was remarkable; at some points it could be divided into several layers. The uterus was carried to left side and out of pelvis, where it could easily be felt before operation. The accidental rupture of upper, decomposed portion of sac at time of operation necessitated its entire removal. Clinical history of case is somewhat as follows: Age 21, married, no children, sterile seven years, last normal menstruation June 20th, 1889. In August had nausea and vomiting, and diagnosis of probable pregnancy was given. In October had severe pain and hæmorrhage. Recovered, but had occasional attacks thereafter. Abdomen enlarged and fetal movements were detected. On

March 1st, and for several days after, had unusual pains which subsided, and an examination developed death of fœtus. After this, and until last week in April, there was gradual diminution in size of abdomen, and apparent improvement in patient's health. At this time—last week in April—a decided change came on. Severe pains, fever, rapid pulse, etc., evidences of septic infection. March 28th decidua membrane was passed entire. On examination two abdominal enlargements could be distinguished, one the fœtal tumor, and the other the enlarged and displaced uterus. Previous to March 1st the fœtal head could readily be made out occupying the Douglas cul-de-sac, but after that date, through some change in the position of the fœtus, nothing but fluctuation could be felt. Digital examination per rectum permitted the fœtal bones to be plainly felt, and showed but very little tissue between the rectum and the child. In summing up the diagnostic points in this case we have: 1. The ordinary signs and symptoms of pregnancy. 2. Hæmorrhage at irregular intervals during the entire period of pregnancy. 3. Pain, collapse and hæmorrhage at about the end of the fourth month. 4. Irregular abdominal, cramp-like pains, more severe and continuous than would be expected in a condition of normal pregnancy. 5. Death of fœtus at term, followed by diminution in size of abdominal protuberance and of breasts, and by cessation of lacteal secretions. 6. Irregularity of the abdominal enlargement. 7. Passage of decidua membrane. 8. Position of os uteri, forward and behind symphysis, and obliteration of cervix. 9. Very dilatable os. 10. Empty uterine cavity. 11. Pressure of the fœtal head in the cul-de-sac of Douglas.

The immediate reason for operation was the evidences of general septic infection. A free abdominal incision was made and tumor exposed, which was of a dirty, spheclated appearance, soft and easily broken down. An offensive, thick fluid discharged upon incising. Child was at once seen, breach upward, and was easily extracted, but in so doing the thin upper portion of sac was broken, allowing small intestines to protrude into sac, and fluid from sac to get into abdominal cavity. It was now thought best to remove entire sac, if it could be done. Sac was free all around, and down as far as brim of pelvis; but this cavity was entirely filled by development of sac. Tumor seemed to be covered by the peritoneum, the cæcum on the right and the sigmoid flexure on the left were intimately adherent to its walls. An incision was made through covering posteriorly, fingers introduced and covering peeled away and secured in sections by forceps. At this point of operation darkness supervened from a passing storm, and nothing could be seen in abdominal cavity, being compelled to depend alone on the sense of touch. This misfortune led to a

separation of portion of sigmoid flexure too close to its walls, interfering with its vitality and causing it to slough away on the sixth day. The right ureter failed also to be recognized, and was included in the grasp of one of the forceps, and divided. Neither of these accidents would have happened had the light been even fair. As soon as coverings were lifted off all around, the sac was easily peeled from and lifted out of the pelvis. Bleeding was slight and cavity of abdomen was thoroughly cleansed. Patient was much exhausted, but soon rallied and progressed nicely until sixth day. Urine was secreted daily, and by patient's own efforts. On removing dressings and gauze packing on sixth day fecal matter was found. Thorough irrigation was made. Fecal fistula continued until eleventh day; other progress good. Signs then of bowel obstruction came on, and patient sank rapidly, dying on the twelfth day after operation. Autopsy showed opening size of half-a-dollar in lowest part of sigmoid flexure. Kidney on right side atrophied. No evidence of peritonitis. Similar cases have been recorded by a number of operators.

EXHIBITION OF NEW UTERINE DILATOR.

DR. E. C. DUDLEY presented an instrument similar in appearance to a Fritsch dilator. One-half was hollow from the handle to the blade, the hollow part being convex on its inner side and fitting into the opposite concave blade. After the uterus has been dilated by other instruments, this instrument may be introduced, the blades separated, and water poured through the hollow blade from a fountain syringe connected with it. The fluid passes into the uterus through several small openings at the end of the hollow blade, and out of the uterus between the two diverging blades. The instrument has been used with considerable satisfaction for eight months.

EXHIBITION OF PERINEAL SHIELD.

DR. T. J. WATKINS showed a device to be used to protect the recently injured or repaired perineum from urine. It is inserted just below the urethra, and covers and protects the perineum. It is made of hard rubber, and easily kept clean. It renders catheterization and douching after urination unnecessary.

A CASE OF HYPOSPADIAS. (SPURIOUS HERMAPHRODITISM.)

DR. L. A. FROST of the Illinois Central Hospital for the Insane, presented, by invitation, the following: E. P., age 43, native of Germany, married to a man, mentally a mild dement. Development and general appearance masculine. Beard about six inches long; no hair on breast or limbs. Mammaræ slightly developed. Sexual organs imperfect. Mons veneris more prominent than general in men. Clitoris, or penis, about one and a-half inches long, with well-developed

glans; movable foreskin which does not cover glans. Under side of penis covered with mucous membrane. Penis is situated between two folds of skin resembling labia majora; left labium contains a testicle which is firm and freely movable, having a small epididymis. Right labium is smaller and has no testicle. The external appearance of the hypospadias is much like that of a vagina, is one-and-a-half inches deep, and urethra opens into this about one inch above external opening. No spermatozoa can be found in urethral secretion. When the subject was a child the parents were unable to tell what the sex was, but noticing particularly that urination was like that of a female the child was dressed accordingly, given a girl's name, and subsequently married to a man.

DR. W. W. JAGGARD had seen this individual in consultation with Dr. Frost. The disposition of the patient was a practical difficulty. In the asylum was he to be placed among the males or females? He had been placed by the hospital authorities in the female department, feeling that less harm would thus result. This case is evidently one of pseudo-hermaphroditism. An autopsy only can fully determine the question. True hermaphroditism does occur, general professional conviction to the contrary notwithstanding.

FOREIGN CORRESPONDENCE.

LETTER FROM BIRMINGHAM.

[Written by Dr. Fred. B. Robinson, Professor of Surgery and Anatomy in Toledo Medical College.]

The Meeting of the Pathological and Clinical Section of the British Medical Association—A Case of Obstetrical Paralysis—A successful Case of Cholecystotomy—Mr. Lawson Tait—Intestinal Perforations and Disturbances—The Effect of Abdominal Section on the Action of the Kidneys.

The British Medical Association met in this city January 30, with Mr. Priestly Smith in the chair. This meeting was the Pathological and Clinical Section. It was a discussion of rare interest, especially to the gynecologist and abdominal surgeon.

The first case (with patient) presented was that of an infant 4 months old, afflicted with what is called "obstetrical paralysis." At the birth of the child great difficulty arose in delivering the shoulders, and after the birth the child's right arm was almost completely paralyzed. The muscles of the arm were nearly all atrophied and the arm was rotated in a prone position. The deltoid biceps, coraco-brachialis, brachialis anticus and pronators were severely affected.

Dr. Suckling, who presented the case, considered the pathological process to be situated at the root of the fifth cervical nerve, and was due to

mechanical injury during delivery—traction on the arm. Three months' application of galvanic electricity, twice a week, had induced improvement. The prognosis, Dr. Suckling stated, was unfavorable.

Mr. J. W. Taylor presented a successful case of cholecystotomy, with especial reference to the differential diagnosis between enlarged gall bladder and kidney tumors. This elicited warm discussion from such good observers as Drs. Foxwell, May, Tait and Marsh. Dr. Taylor claimed that kidney and gall bladder enlarged must be best distinguished by the movements induced by the hand of the examiner and position of the patient. Dr. Taylor claimed that when a patient turned on the side, the kidney tumor was as plain to feel or plainer to feel than when the patient was on the back. But in an enlarged gall bladder it was different, that one could feel or palpate an enlarged gall bladder better in the horizontal or vertical position than when the patient turned on the side, and that the enlarged gall bladder was lost very much to palpation when the patient turned on the side.

Mr. Lawson Tait illustrated by a sketch on the blackboard that Dr. Taylor's rules were entirely fallacious. Mr. Tait said that one could diagnose an enlarged gall bladder from kidney tumor (right) only when he could be sure that the changed position of the patient only changed the axis of the swollen gall cyst. Otherwise, said Mr. Tait, "I defy any one to make a differential diagnosis between enlarged gall bladder and kidney tumor." Mr. Tait said that he examined his patients both in the standing and lying posture, and so far he was unable to observe any movement communicated to the gall bladder by respirations. Mr. Tait talks on the subject of cholecystotomy with an authoritative assurance born of well and hard earned experience. He is an interesting speaker in this new field, as he has such a special individuality in all his work. One feels in listening to him that he makes every one of his statements in a fighting attitude, and every statement contains a challenge. But his assertions and the truth seem to agree so closely that he absolutely forces men into thinking and investigating. His mastery in his own fields makes him the most fascinating of talkers, as he speaks apparently without any possible fear of contradiction. His methods of talk and work fire men with zeal to progress. Mr. Tait has operated about seventy times for cholecystotomy with four deaths, but I understand that three of these could not be chargeable to the operation. One of the cases died of suffocative catarrh three weeks after the operation, and two died of cancer. Such could not be directly referred to the operation.

Dr. Foxwell claimed that the large gall bladder and the kidney tumor had distinct and positive connection with respiration. He said: "I have

carefully measured the distance these tumors move during respiration, and have found that the enlarged gall bladder will move three-quarters of an inch more or less, and the kidney tumor one-half inch more or less." A claimed, disputed and undecided question arose that the enlarged gall bladder rested on the right kidney, and therefore it would be impossible to differentially diagnose them. Normal anatomy and pathology differ so much that only the conditions found in actual pathological cases were acceptable in forming conclusions. However, concrete cases demand each their own special observation, as this gall bladder may contain half a dozen parts and reach to the pubes.

The next subject brought up, and presented in an able and interesting lecture, was that of intestinal perforations and disturbances. This made your correspondent feel that he was again at home in his own green pastures, lying under his own shamrocks among his own dog kennels, where he had quieted about two hundred of the barking curs in order to find out some useful knowledge in intestinal surgery. Mr. Langley Browne first brought forward a case of death by ulcerative perforation of the duodenum. The man was brought to the hospital writhing in agony. His pain came on suddenly after a healthy life. Mr. Browne saw him some ten hours after the accident and considered him in such a condition of collapse that he was an unfit subject for operation. Some hours after the man died. At the post-mortem the abdominal cavity was found to contain fluid and material from the alimentary canal. Dr. Browne said, five physicians were present at this autopsy, and noted that the perforation could not be found at all while the alimentary tract was in the abdomen, and that it could not be discovered until the whole canal was removed from the belly and water forced inch by inch along the canal from the rectum toward the stomach. When the water neared the pylorus it was observed to trickle out of a small perforation close to the pyloric valve, in the duodenum. Mr. Browne observed that it was so difficult to find that he defied any operator to have discovered it and saved his patient. (Mr. Tait amusingly remarked that Mr. Browne did not know the skill of all operators, which created some merriment.)

It surprised us that some of these able men and skillful surgeons did not even allude to such a wonderful aid to diagnosing intestinal perforations as the simple use of simple hydrogen gas. Your correspondent, with fifteen minutes to generate a few gallons of hydrogen, and five minutes to find the perforation after the abdomen was open, could locate this insurmountable difficulty for Mr. Langley Browne and tell him with a scientific certainty, "there is the hole." These keen surgeons and observers are not yet familiar with this wonderful aid to intestinal diagnosis. In an in-

teresting and wide discussion of intestinal diagnosis it was not even referred to or mentioned, but I am informed that vivisection, as it is wrongly denominated, is not allowed in this country. One might as well call Koch's inoculation of animals vivisection, or breaking a young ox or colt, vivisection, as to call experiments on dogs systematically carried out under anaesthetics, vivisection. But intestinal surgery rests for its progress on experiments, and in justice to humanity these experiments should be performed first on the lower animals and not on our fellows.

Mr. Browne mentioned another case of a barmaid suddenly taken ill, and he was called and found her in a condition of collapse, unfit for operation, dying some eight hours after. The autopsy showed intestinal perforation with extravasation. Now, it is my firm belief that if these cases have laparotomy performed on them and the abdomen washed out with a few gallons of hot water it will rouse them from the shock, then with the hydrogen gas find the perforation and close it. They have no chance for life without operation and there certainly is some chance with operation.

Again, Mr. Browne stated in his lecture that whenever a person suddenly taken sick in the abdomen, and died shortly, that it was due to two causes, viz., *perforation* or *hæmorrhage*. This statement is very good as far as it goes. But it must be remembered that the shock to the nervous system by crushing violence on the peripheral nerve apparatus of the peritoneum and gut wall is sufficient to kill in a very short time from invagination, volvulus, or strangulation by bands and through apertures. I have seen invagination cause gangrene in ten hours or less. The gangrene is caused by the obstruction cutting off the return of venous blood while the artery continues to carry its blood to the parts, increasing the oedema. So it thus appears that death can occur very shortly, and as equally short from other forms of interstitial disturbances as from perforation and bleeding. I had, however, one young woman die in five hours from rupture of a pelvic abscess into the peritoneum.

The old idea that duodenal perforations were likely to occur after severe burns was confirmed by reported observation at this meeting. The question was asked why the ulcers occurred in the duodenum and not in other parts of the canal after burns. No direct answer arose, but it was intimated that ulcers really occurred in the stomach also, and simply extended over into the duodenum. Mr. Tait gave evidence that one of his cases of burns confirmed the theory that duodenal perforations followed severe burns, and also in cases of diabetes.

A very interesting talk followed on operations on the kidney and bladder, and also the effect that abdominal section had on the kidney. Nearly

every surgeon favored supra-pubic cystotomy rather than the perineal operation for stone in the bladder. The only objection raised against supra-pubic cystotomy was the difficulty of drainage. The objections against the perineal operation for stone in the bladder are shock to the system from cutting the bladder where the nerve supply is the greatest, of danger of cutting important structures, and of dangerous immediate and subsequent hæmorrhage.

The effect of abdominal section on the action of the kidney was freely discussed. I can remember that, years ago, the celebrated Fothergill called the attention of the profession to the fact that men should be careful to observe the real function of the kidney before surgical procedures were applied, and he noted cases in which the kidneys were not working right in which he advised that no operation should be performed, but in those very cases his advice was neglected and operation occurred, followed by death. As gynecologists we have learned to day that Fothergill was right, but also we think that operations on the *peritoneum* have special dangers in relation to the kidney. I am thoroughly convinced that surgical procedures on the peritoneum are more efficacious in morbidly disturbing the kidney secretion than on almost any other bodily organ. Whether the effect lies in the wounding of the rich and even luxuriant peripheral nerve apparatus which lies thickly scattered in the wall of the peritoneum, I am not prepared to say.

Dr. Foxwell said that he had studied the matter from two points. He said that he had finally satisfied himself that albumen was not a very reliable standard to go by, and especially a single examination of the urine was useless to indicate when the operations could be performed safely. He thought that the best standard to indicate whether abdominal section should be performed was the amount of *urea* secreted daily. He said that abdominal section should not be performed with less *urea* secreted than 200 to 160 grains daily.

Mr. Bennett May observed that it was especially necessary to observe the rules of the secretion of *urea* in kidney extirpation, as one might remove the very kidney which contained about all the secreting substance that the patient possessed.

Mr. Tait thought that the rules relative to albumen and *urea* were more important in kidney extirpation than other abdominal sections, but he was quite anxious to secure definite laws with regard to the amount of substances secreted by the kidney that would indicate abdominal sections with safety.

Mr. Langley Browne showed several large stones removed by perineal operation from the bladder, and some kidneys which were largely filled in the pelvis with numerous and large calculi.

Dr. Christopher Martin, assistant to Mr. Lawson Tait, demonstrated some specimens of abdominal tumors which had been rotated on their pedicle. Dr. Martin showed one that was gangrenous from the twist in the pedicle, and which was successfully removed by Mr. Tait. He showed another tumor which had a pedicle twisted like an umbilical cord, but which was not strangulated. The rotation had not progressed far enough to mechanically occlude the vein or artery. This tumor was also successfully removed by Mr. Tait. The tumor which was strangulated had occurred in Dr. Martin's practice. Dr. Martin examined the woman and found a tumor in the abdomen, and he was called to see her three days after, when he found the tumor had increased to double the size. She was then very sick. The sudden increase of the tumor induced the diagnosis of axial rotation of a tumor with hæmorrhage into it. Mr. Tait was called in consultation with Dr. Martin, when it was decided to remove the tumor. The above named gentlemen operated, and found the tumor twisted on its pedicle and gangrenous. The woman made an easy recovery.

Birmingham, Eng., Feb. 2. 1891.

DOMESTIC CORRESPONDENCE.

Did a Majority of the Board of Trustees Vote for the Removal of the Journal to Washington?

To the Editor:—The general impression seems to have gone abroad that the *majority* of the Board of Trustees were in favor of the removal of THE JOURNAL to Washington. If I am not mistaken this is not in accordance with the facts. If I am mistaken I desire to be corrected.

As I understand, Dr. Garcelon, of Maine, was not present at the Washington meeting of the Trustees, and was not represented by proxy. Dr. Moore was represented by proxy directed to Dr. Hooper, the President of the Board, but without an expression of preference. The same of Dr. Dawson, of Ohio. Of the six members present I understand that Dr. Hamilton, of D.C., Dr. Love, of Missouri, and Dr. Shoemaker, of Pennsylvania, were in *favor of immediate removal*; that Dr. Hollister of Illinois, was opposed to removal; that Dr. Nelson, of Tennessee, was in favor of submitting the question to the Association, and that the President, Dr. Hooper, of Arkansas, would favor the removal to Washington provided it was the expressed wish of the majority of the members of the Association.

If my information is correct it certainly cannot be affirmed that a majority of the Board are in favor of removal!

H. MARTYN SCUDDER, M.D.

Chicago, Ill.

A Pan-American Medical Congress.

To the Editor:—I beg leave to announce to the members that it is my intention to move at the Washington meeting, 1. That the American Medical Association extend to the profession of the Republics and Colonies of the Western Continent an invitation to assemble in this country in an *International American Medical Congress*; and, if this resolution be adopted, then, 2. That the Nominating Committee be instructed to report a committee of one from each State and territory, and one each from the Army, Navy, and Marine Hospital Service, to whom shall be referred the time, place, and permanent organization of the proposed Congress.

There is substantial reason why this step should be taken and why the proposed Congress should be held. Polite learning has always followed in the wake of commerce. The recently established and rapidly developing politico commercial relations between the United States and the other countries of the two Americas must, in the nature of things, bring about an interchange of the sciences and arts. Among these latter, medicine in its broad sense will be the first to be forced into the foreground. The restrictions which are placed upon commerce in the interest of health make it imperative that problems of naval hygiene and international sanitation be discussed and definitely settled. The question of epidemics, their causation, propagation and habitat, becomes, as never before, one fraught with imminent commercial and vital importance. Pressing hard upon both these broad and comprehensive themes, indeed forming integral parts of them, is the great and developing department of bacteriology. Through the medium of this newest of medical departments all branches of medicine and surgery have become intimately correlated. Thus we discover at once that, between the United States and the other countries of the Western Continent there exists a commercial interest in all topics which can engage the attention of a Medical Congress.

The medical schools of Latin America are generally endowed and enjoin a curriculum which insures the scholarship of their alumni. The recent graduates, however, go to the European schools for advanced study. If the profession of the Southern Republics could be induced to visit the United States and thus become familiar with the clinical and educational resources of our great cities the result would doubtless be an increased enrollment from these countries in both our under- and post-graduate schools. On the other hand our own students desirous of prosecuting their studies in a language which shall have a commercial as well as a classical importance may find it profitable to spend a season among the hospitals and laboratories of Havana, Rio Janeiro and Buenos Ayres.

I beg to state that early last winter I opened a personal correspondence with distinguished medical gentlemen of Mexico, Central America and South America, requesting their individual views as to the expediency of such a Congress and that the replies so far received are uniformly favorable.

My apology for bringing this matter up before the assembling of the Association must be found in the importance of the contemplated action and in the further importance of having the delegates come to the meeting able to reflect in some measure the sentiments of the profession whom they represent.

CHARLES A. L. REED, M.D.

Cincinnati, April 6, 1891.

Phymosis.

To the Editor:—Page 271 in No. 8 of THE JOURNAL contains an article on "Painless Circumcision" by Dr. G. W. Overall, with which I was much pleased. It is a great step in advance of the old method of giving chloroform, which several times in my practice endangered the life of the little patient. Since then I have to a certain extent followed the method of Dr. Overall. That is, I have used a 20 or 30 per cent. solution of cocaine and injected 10 or 15 drops with a blunt pointed glass syringe into the preputial orifice, pressing the prepuce tightly around the end so as to retain the fluid, after removing the syringe. I churned the fluid cocaine so as to come in contact with the entire mucous membrane for ten or fifteen minutes. I at the same time sprayed over the entire integument where the circumcision was to take place an anæsthetic solution consisting of

- R. Chloroform, ʒiiss.
- Ether sulphuric, ʒiv.
- Menthol, grs. xv. ʒj.

until I felt satisfied that complete anæsthesia of the part was produced. I now begin the now painless operation and so far I have not been disappointed in that respect. A fine catgut interrupted suture will soon unite the edges. Dress with iodoform gauze and bi-chlorinated cotton, and you will have every reason to feel satisfied with the best method of operating for phymosis. Tepid water sprays and dressings will keep down all local inflammation should there be much.

If the operation now required for enuresis of long standing a little medication may be necessary for a week or two after the operation, in that case I have found excellent results from the following:

- R. Atropiæ sulph. gr. ij.
- Aque distil. ʒj. ʒj.

Sig. One drop for each year of age of the child, at 4 and 7 P.M. Increase the dose if no effect is produced in one week.

All nervous irritation, spasms, convulsions in the little sufferer will generally rapidly subside.

I will close by saying that all male children troubled with enuresis and all other nervous dis-

eases of a reflex nature should never be prescribed for unless the physician is satisfied from *actual observation* that no condition of phymosis exists. If there is, circumcision is the only radical cure.

B. STORCH, M.D.

Alta, Iowa.

SPECIAL CORRESPONDENCE.

Shall The Journal be Removed to Washington?

THE VOICE OF OUR MEMBERS AS SHOWN BY A
VOTE OF THE SAME ON THE QUESTION OF
THE REMOVAL OF THE JOURNAL FROM
CHICAGO TO WASHINGTON.

As straws show which way the gentle zephyrs blow;
Thus Votes, the will of our Association show!

The agitation on the part of some of the Trustees, which contemplates a removal of THE JOURNAL of the Association from Chicago to Washington, was scarcely announced, before a general feeling of opposition was clearly evident in a large majority of the more active members of the entire Association—North, South, East and West. But how to obtain an expression from the members regarding such a movement, and, at the same time, put in force the will of the majority of the same under all the circumstances, was a perplexing question. The Association being made up of permanent members and delegates, the former having no vote and the latter having become extinct by virtue of their adjourning *sine die*, there was no official way by which an expression of the will of the members could be obtained prior to the coming meeting. In other words, our Association is like a chrysalis, so far as any official action of its members is concerned between each annual meeting. This being the case it was patent to every one that no official action could be taken on this vital question by the members before the meeting at Washington. Yet this did not prevent any permanent member from canvassing the field and ascertaining as nearly as possible the feelings of the members regarding the proposed removal of THE JOURNAL to Washington. The result was that after several consultations with numerous *friends* of THE JOURNAL who were simply high privates in the rear ranks of our membership, I decided to conduct a complete canvass of the members and ascertain their individual opinions on this most important question. Consequently I prepared and mailed, or had mailed, to each permanent member of the Association, the following circular letter with which I enclosed a postal card addressed to myself, or such others as were assisting me, on which the following blank was printed:

My Dear Doctor:—You are no doubt aware long ere

this that an effort is being made to remove The Journal of the American Medical Association from Chicago, Ill., to Washington, D. C. As I am desirous of obtaining a free expression from the leading members of the Association, of their *canid opinion* in regard to this important question, I herewith enclose you a blank postal card on which I will ask you to kindly inform me whether you are *in favor* or *opposed* to this movement to change the place of publication of our National Journal from the Western Metropolis to the National Capital; to which we will be pleased to have you add the principal reason "for the faith that is within you."

Trusting that I may have the honor to receive an early reply through your courtesy, I remain,

Sincerely and Fraternaly Yours.

R. HARVEY REED.

Mansfield, O.

1891.
Dear Doctor:—In answer to your inquiry of
1891, regarding the removal of "The Journal" of the American Medical Association from Chicago to Washington, it is, in my opinion, to the best interests of the "Journal" to have it
Briefly my reasons for the above opinion are
(Signed) M.D.

In this work I was ably assisted by Dr. T. D. Crothers, of Hartford, Conn., who sent out the same circular to the members in the Eastern States, and received and recorded their views. Likewise I was assisted by Dr. C. E. Beardsley, of Ottawa, O., who looked after the votes in Ohio, and Dr. John F. Fulton, of St. Paul, Minn., who canvassed Minnesota, and Dr. T. M. Hood of Weston, W. Va., who secured the votes for his State; all of which votes have been carefully recorded on tally sheets prepared for that purpose, of which the following is a *fac simile*, giving the name, his postoffice address, together with his vote, all of which is backed by his reply on the postal card or letter he returned, which has been carefully filed away for future reference.

TALLY SHEET.—Showing the Record of the Returns of the Votes taken, with Reference to the Removal of "The Journal" of the American Medical Association from Chicago, Ill., to Washington, D. C.

Returned to Dr. R. Harvey Reed, Mansfield, O., by
Dr. of St.
. Post Office, State of
. Division.

Names.	Post Office.	State.	Vote for Chicago.	V'te for Wash.	Remarks

After recording the votes on these tally sheets we journalized them, so to speak, into States, giving the total number of members in each State, to each of whom a circular had been sent; the total number of votes received from each State; the total number for Chicago; the total number for Washington, and the total number for other places, or those who were undecided or had no preference, all of which is clearly shown by the following tabulated report. This report was closed on the 8th of April, notwithstanding we were receiving quite a number of votes daily, and have continued to receive them ever since it

was closed, these unrecorded votes being largely in favor of Chicago.

Name of State.	No. of Mem- bers, also No. of letters sent out.	Whole num- ber of votes Returned.	Chicago.	Washing- ton.	Miscellaneous and no opinion.
Alabama	31	21	15	3	3
Arizona	2	1	1	1	1
Arkansas	43	24	23	1	1
California	68	34	30	3	1
Colorado	31	31	28	3	3
Connecticut	53	23	15	4	4
Cherokee Nation	1	1	1	1	1
Dist. of Columbia	84	36	15	21	5
Dakota	12	7	6	1	1
Delaware	7	4	2	1	1
Florida	18	12	11	1	1
Georgia	60	19	15	2	2
Idaho	1	1	1	1	1
Illinois	435	274	271	1	2
Indiana	277	169	164	4	1
Iowa	226	149	142	3	1
Kansas	49	30	30	1	1
Kentucky	111	53	44	6	3
Louisiana	41	16	14	2	1
Maine	21	14	12	2	1
Maryland	49	18	11	5	2
Massachusetts	135	58	39	12	7
Michigan	151	109	92	4	4
Minnesota	66	60	58	1	1
Missouri	217	115	99	11	5
Mississippi	32	13	15	1	1
Montana	2	1	1	1	1
N. Carolina	13	16	5	1	1
N. Mexico	4	2	2	1	1
Nebraska	59	46	43	1	2
N. Hampshire	25	14	10	3	1
N. Jersey	157	12	12	4	2
N. York	275	127	81	32	14
Ohio	299	244	210	21	13
Oregon	6	4	4	1	1
Pennsylvania	422	184	139	19	19
Rhode Island	125	17	9	2	6
S. Carolina	18	11	5	4	2
Tennessee	232	104	90	11	3
Texas	83	44	37	5	2
Utah	4	2	2	1	1
Vermont	14	9	7	2	2
Virginia	29	14	10	4	1
W. Virginia	23	15	14	4	1
Washington	911	9	9	1	1
Wisconsin	88	52	49	2	1
Wyoming	1	1	1	1	1
Votes with no address		8	3	4	1
Totals	3,911	2,219	1,892	209	118

Number not reported, 1,692.

It will be observed, by studying this table, that there are eight States which have a membership of over 200 each, and they stand in the following numerical order:

Name of State.	No. of Members.	No. Votes Returned.	Chicago.	Washing- ton.	Scat- ter'g.
Illinois	435	274	271	1	2
Pennsylvania	422	184	139	26	19
Ohio	299	244	210	21	13
Indiana	277	169	164	4	1
New York	275	127	81	32	14
Tennessee	232	104	90	11	3
Iowa	226	149	145	3	1
Missouri	217	115	99	11	5
Totals	2,383	1,366	1,199	109	58

In these eight States you will observe there is a total membership of 2,383, and out of this number 1,366 voted: 1,199 of which are in favor of Chicago, whilst only 109 are in favor of Washington, and 58 are undecided. But, were all those voting for Washington and scattering to join together with those who did not vote at all,

to vote for the Capital City, Chicago would still have a majority of the whole.

By a further study of this table it will be observed that Illinois stands first numerically in the replies to our circular, Ohio second, Pennsylvania third, Indiana fourth, Iowa fifth, New York sixth, Missouri seventh, and Tennessee eighth.

In regard to the vote for Chicago, Illinois also stands first, Ohio second, Indiana third, Iowa fourth, Pennsylvania fifth, Missouri sixth, Tennessee seventh, and New York last.

In the vote for Washington this is reversed, and New York stands first, Pennsylvania second, Ohio third, Missouri and Tennessee equal for fourth place, Indiana sixth, Iowa seventh, and Illinois last, with only one vote for the National Capital.

As to the scattering and undecided vote Pennsylvania ranks first, New York second, Ohio third, Missouri fourth, Tennessee fifth, Illinois sixth, with Iowa and Indiana on an equal footing for seventh place.

Again, you will observe that 88 per cent. of the entire vote in these eight States is for Chicago, and only 8 per cent. for Washington, with 4 per cent. undecided or for some other city.

But when you consider that out of 3,911 members all but 1,692 voted on this question, and that out of the 2,219 votes cast 1,892 were for Chicago, and only 209 for Washington, and but 118 scattering and undecided, or, in other words, over 85 per cent. of all the votes cast are in favor of THE JOURNAL remaining at Chicago, and only 9 per cent. are in favor of it being removed to Washington, whilst only a fraction over 5 per cent. are either undecided or voted for some other city, it shows that the evidence is overwhelmingly in favor of Chicago, and against the removal of THE JOURNAL to Washington.

It does not seem possible that any Board of Trustees would dare to attempt such a hazardous undertaking against the wishes of such a large percentage of their constituents, and especially so when we remember that 45 of the heaviest advertising patrons of THE JOURNAL are decidedly in favor of it remaining in Chicago against 15 of the lighter advertising patrons who favor the National Capital, as reported in last week's Journal.

The marked indifference manifested by the profession in the District of Columbia is worthy of some attention. Out of a total membership of 84, only 36 voted on this question at all, or in other words, six less than half of the total membership expressed any opinion whatever, and ten of these were in favor of THE JOURNAL remaining at Chicago, whilst five were indifferent, and but 21 out of 84, or to be more explicit, only 25 per cent. of the entire membership living in Washington and the District of Columbia expressed themselves in favor of this change; this

fact alone should cause us to pause a moment at least, and ask why all this indifference regarding the removal of *THE JOURNAL*, on the part of the profession of our Capital City, if they favored such a change and thought it for the best interests of *THE JOURNAL*?

We trust that the facts we have presented to you in the above table, which have been procured at no small amount of labor and expense, will serve to satisfy every reader of *THE JOURNAL*, as to what the popular feeling of the members of our Association is, regarding this proposed removal, which has been so thoroughly discussed, both pro and con, in *THE JOURNAL*, that no reader of the same could have voted other than intelligently on this question.

We trust that every State, district and local medical society in our country, will see to it that a full representation of their delegates are present at the coming meeting at Washington to vote their convictions on this question, and also to see to it that the member of your nominating committee in each State is true to your interests, and a man who will favor the election of new members on the Board of Trustees who are in full accord with the wishes of their constituents, on this important issue, and thus forever settle this needless and unprofitable controversy which has evidently been sprung on the members by a clique of medical politicians.

Very respectfully submitted.

R. HARVEY REED.

Mansfield, O., April 13, 1891.

ACTION OF THE GOLDEN BELT DISTRICT MEDICAL SOCIETY OF KANSAS.

At a regular meeting of the Golden Belt District Medical Society of Kansas, held at Topeka, Kansas, on April 9, 1891, Dr. William B. Deewe, of Salina, moved the following resolution which passed unanimously, viz.:

WHEREAS, The Board of Trustees of *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, at a recent special session in Washington, D. C., adopted a resolution favoring the change of the home of *THE JOURNAL* from Chicago to Washington, and

WHEREAS, This is a question which the Association will be called upon to answer at its next meeting at Washington, D. C., in May, 1891, and

WHEREAS, We believe it to be for the best interests of *THE JOURNAL* and the Association, that the office and place of publication of *THE JOURNAL* should not be removed. Therefore, be it

Resolved, That the delegates from this Society to the next meeting of the American Medical Association are hereby instructed to vote for no change to be made in the location of *THE JOURNAL*, and further, be it

Resolved, That we urge all Kansas delegates to vote against its removal.

F. B. BROWNE, M.D., Secretary.

To the Editor:—While in favor of Chicago, as the publishing centre for *THE JOURNAL*, I think

the better plan, in view of the present controversy, would be to *abolish THE JOURNAL altogether*. It has never supplied a want in medical journalism, and it can never be a universal success, because it cannot unite and harmonize the varied and various interests of this immense breadth of country. Comparisons with the *British Medical Journal*, so often made in these columns, are entirely illogical when we take in consideration the small area of England, and the difference in the character of the medical profession in the two countries. There are plenty of medical journals in this country to-day which would publish the papers that are read at our meetings to much greater advantage to their authors, and much sooner, than *THE JOURNAL* can or has done.

I am in favor of abolishing *THE JOURNAL*, which is in most cases but a late edition of the Association proceedings. In its stead I am in favor of having the Transactions of each Section published separately in good shape, as soon after the meetings as possible, and sent to the members, each member designating the Section whose Transactions he wishes. In this way each member would have in a complete and compact form the proceedings of the Section he is most interested in, always ready for reference, and a useful addition to his library. Increase the membership by reducing the annual dues, and abolishing *THE JOURNAL*. Publish the Transactions of each Section separately. Neither Chicago, nor Washington, but union forever.

ERIC E. SATTLER, M.D.

117 Garfield Place, Cincinnati, O.

To the Editor:—Remove *THE JOURNAL* to Washington? No! Remove Washington to *THE JOURNAL*. E. D. MOFFETT, M.D.

Indianapolis, April 9, 1891.

To the Editor:—Let *THE JOURNAL* remain where it is—at least for the present.

JOHN C. SUNDBERG, M.D.

San Francisco, Cal.

To the Editor:—I have been interested in the correspondence pro and con on the proposed removal of *THE JOURNAL* from Chicago to Washington. Unless some very important personal interests are to be served, no tangible reason appears why the change should be made.

One might have a certain National pride in the location of *THE JOURNAL* in Washington because it is the Capital of the Nation; but sentiment in such an enterprise should give way to utility. There are decided practical advantages in a great medical centre, which Washington can never have. It is a question whether the quality of *THE JOURNAL* would be satisfactory to the whole profession if it were made subject to the political and bureaucratic influences of the Capital.

As a permanent home for THE JOURNAL Chicago would improve; Washington would not. Of all the great medical centres in the country Chicago has the minimum average distance from subscribers and contributors,—an advantage which will increase with time.

The political and commercial centres of gravity of the United States are moving westward with a force which is irresistible. The question is whether THE JOURNAL would profit by going *against* such a force.

E. C. DUDLEY, M.D.

70 Monroe St., Chicago, April 2, 1891.

To the Editor:—Let THE JOURNAL remain in Chicago.

GEO. R. HIGHSMITH, M.D.

Carrollton, Mo.

To the Editor:—Please enter me as a voter to let THE JOURNAL remain at Chicago. There have been many valid reasons assigned by your correspondents why it should not be removed, but I have seen none so far to the contrary.

T. B. GREENLEY, M.D.

West Point, Ky., April 6, 1891.

To the Editor:—The American Medical Association acted wisely when it exchanged the annual volume of Transactions for the weekly JOURNAL; and displayed equal wisdom in locating the plant for its publication in Chicago.

The growth of THE JOURNAL has been in keeping with the growth of its home, and both bid fair, in the near future, to stand without rivals, the pride of the American people and the admiration of the world.

Each member of the Association, may with the writer feel proud that his vote helped to create THE JOURNAL and gave it a home in the grandest city, for its age, that the world has ever seen; while to all, it should be a source of regret, amounting almost to sorrow and shame, that so small a personal matter, a mere whim of a vain and over-selfish brain, should be permitted to cause such a commotion and menace the prosperity and very life of THE JOURNAL. THE JOURNAL belongs to the Association, and to the ordinary mind, it looks preposterous that any measure so potent for evil, so uncalled for, as the removal of THE JOURNAL to Washington City, should for one moment be seriously considered, or much less be carried into effect or attempted to be, without the consent of a clear majority of its members.

While trickery may be permitted in politics, it is certainly too contemptible to be allowed a place in the deliberations of so august and honorable a body, as the American Medical Association, or to figure conspicuously in its transactions; striking as it does, in this case, at the prosperity and welfare, yes at the very vitality of the Organ of the Association; and *all for mere selfish ends*.

This is certainly a case of "pure cussedness," and having diagnosed it correctly we are certainly competent to treat it with success, and I would recommend heroic dosage that would at once eliminate or suppress it—"sit down on it!"—and ineffectually suppressed in that way it will not soon manifest itself again.

But there has already been too much time spent and too much space in THE JOURNAL wasted in discussing the removal inasmuch as *not one* in every twenty members really desire it; while no one urging its removal ever has offered, or probably ever will, or can offer, a single reason justifying its removal to Washington, while the reasons assigned for its remaining where it is have been both abundant and overwhelming in force.

A. J. SCOTT, A.M., M.D.

Loudonville, Ohio, April 7, 1891.

Editorial Opinions of the Medical Press.

The arguments used in favor of the removal of The Journal of the American Medical Association to Washington, are somewhat peculiar. The arguments, that the personal influence of Dr. N. S. Davis is too marked, and that the Chicago profession have a monopoly of its contents, or that it is conducted in the interest of a clique, are not very well substantiated. If The Journal were liable to fall into the hands of a select coterie, nowhere would it be more possible than in Washington.—*Physician and Surgeon*, March, 1891.

Shall The Journal be removed to Washington? The call for a general expression of opinion on the above question, was prompted by the knowledge that the members of the profession are very largely interested in The Journal, and as integral parts of the American Medical Association they should have a voice in the debate. The arguments for and against the removal have been more numerous than convincing, and in many instances have degenerated into mere partisan exhortations. It should be remembered that this publication represents the National Association, and that sectionalism has no right to be heard. Any argument, therefore, based on the prior claims of the medical men of any location or district, is out of place.

Of all the reasons given as to why The Journal should remain in Chicago (aside from the fact that Chicago is its present home), one only appears to have weight. This is the geographical situation of that city, which is nearer the population centre of the country than most other eligible places. But The Journal is the official organ of an Association that meets only once a year; it is the means of publication of the transactions of these yearly meetings, and half of the articles presented are six months old or more before they can appear in print. The sole advantage of a central location is the delivery of The Journal a few hours earlier to most of its subscribers, an advantage that under the circumstances of its publication does not seem to be of very great importance.

The arguments in favor of Washington as the seat of publication are two: First, that as the Capital City of the United States, as the centre of government, Washington is a peculiarly appropriate home for the publication of a National journal. This is mere sentimentalism. Washington is the political centre of the country, and nothing more. It is not the art centre, nor the scientific centre, nor the educational centre, and it certainly is not the medical centre of the United States. The second argument, that the National Library and Museum at Washington offer advantages lacking in other places, is worthy

of more consideration, but it is not clear that some other localities may not equal or even excel Washington in this particular; moreover, the history of *The Journal* does not show any need of such facilities; it is not of that ultra-scientific character that demands resources of this kind.

It seems to us there are but two deciding factors to be considered in this question. One is the facilities offered by a large city for the mechanical part of the publication. This demand may be satisfied in any locality that provides a sufficient printing establishment, and where the postal service is good. The other and most important consideration regards the editorial equipment. The success or failure of *The Journal* depends directly upon the editor, and *The Journal* should be published in the locality where it can command the very best editorial talent be it Chicago or Washington, Boston or New Orleans, New York or St. Louis, or Arcot, Tennessee.—*Pittsburgh Medical Review*, March, 1891.

This subject has been pretty thoroughly discussed from one point of view, namely, whether the interests of *The Journal* and the needs of its readers will be subserved by the proposed change. The argument stands about as follows: Drs. A., B. and C. believe *The Journal* should be removed to Washington, because they wish it; whereas Drs. X., Y. and Z. desire it to remain in Chicago, because their interests demand it. Which of these parties succeeds in fortifying this principal argument by the strongest accessories in the shape of votes, will be shown at the coming meeting of the Association.

But there is another aspect of the case, which has not, we believe, received any attention. How will the removal affect the interests of Chicago?

To the present resident staff of *The Journal* this would seem a matter of course, as it would seriously incommode them to be compelled to remove to Washington. They form but a small element in the Chicago profession, however, and when we eliminate the question of personal interest, we cannot come to any other conclusion but that the removal would be a good thing for Chicago.

The Journal is not, and must not be, in any sense a local journal. It is national; and any attempt to make it a representative of Chicago medicine would be met with a howl of reprobation from all quarters. And yet, as the only professional journal published in that city, it blocks the way for what Chicago needs, a strong and well-supported weekly medical journal. Chicago is now the second city in this continent. Its business interests are even greater than its population, proportionately. Its physicians number over 2,000; active, progressive and cultured men. But in medical journalism it is represented by three monthlies, published by two manufacturing drug firms and one surgical instrument house. Very good journals they are, and very well edited; but is it not a disgrace that the medical profession of that city has no journal of its own, but is contented to take its literature from such sources?

If *The Journal* were to remove to Washington, there would be an opportunity for Chicago's warring cliques to unite in the production of a good medical weekly that would worthily represent the profession of that city.—*Times and Register*, March 21, 1891.

Our readers all know that the American Medical Association has a journal, a real live publication, of its own, and that *The Journal* is managed by a Board of Trustees, and that the Trustees have just more than stirred up matters by openly proposing to move the place of its publication from Chicago to Washington. Praises and denunciations of the Trustees and *The Journal* have been as general as the rustling of the leaves in Autumn. Every member of the Association is a stock-holder, and realizes fully the grave responsibility that rests upon

him in that capacity, and away down deep in the innermost recesses of his consciousness he believes he knows more about the creation and running of a weekly medical journal than that whole Board of Trustees put together, and any number have gone so far as to argue that *The Journal* ought to remain in Chicago because of its superior mail facilities, or that it ought to go to Washington because that city isn't a medical centre and hasn't got a medical journal of any kind, and would, on that account, be free from influences. Such arguments are downright heavy-weights in the minds of the doctors who live at crossroad villages and receive a mail but once or twice a week, and who hesitate about sending their sons to a large city for fear of their contact with the sin and wickedness that stalks all around, or lies in ambush for just such sons as theirs.

As for mail facilities in these days of wonderful works, the *Journal of the American Medical Association* can be just as rapidly distributed to its subscribers if mailed at Kokomo, Lebanon or Kankakee, as if mailed in Chicago; and as for influences, why bless the innocent souls of the Oskosh and Podunk members, Washington is full of them. There is the Columbia Medical College, that is just as much a medical college as the Chicago Medical College; and the Columbia Hospital; the Surgeon-Generals of the Army, Navy and Marine-Hospital Service, three of them, and all influences of the most potent kind. A National Medical Library is there also, one that belongs to the United States, although its manipulator sometimes has spells in which he don't think so, and just placards it "closed for repairs." Why there are actually more influences in Washington than there is wind in Chicago. Another argument, and the one most leaned upon by those favoring Washington is, that it is the Capital of our Nation. This is true, and it means much, but Washington is in no sense a metropolis, nor is it near the centre of population. We think the latter a factor of the very greatest importance. We regard the centralization of goodly numbers in active medical society work as a barometer that never fails to tell of the quality and character of the men who support medical journals.

The New England profession has its *Boston Journal*, the New York profession, their *Record and Journal*, and in Philadelphia, the *Reporter, News, Times and Register*, not counting the monthlies. These are all well and ably sustained; and not one of the proprietors of those journals wants the Association Journal one mile nearer to them than it now is. This journalistic lukewarmness has extended to the subscribers and supporters of those publications. The local medical profession of Washington, to their credit and honor, it must be said, have as a body been loyal sustainers of the American Medical Association. Furthermore, it cannot be charged against them that they have engaged in any intrigues to secure the transfer of the journal publication office to their city. While the question has been of the most vital interest to the Chicago profession. The discussion seems to have done great good in stimulating them to activity in good works that was not before manifest; in fact there is an awakening to a realizing sense of the good thing they have enjoyed in the location of the Association Journal in their city.—*Cincinnati Lancet-Clinic*, March 21, 1891.

DR. J. L. FULLERTON, Secretary of the Medical Society of the State of West Virginia, died March 3, near Charleston, W. Va.

SURGEON ABEL F. PRICE, U. S. N., formerly of the Naval Dispensary, Washington, D. C., has been ordered to the Monongahela, as also Assist. Surgeon S. G. Evans, from the Naval Academy.

ASSOCIATION NEWS.

American Medical Association.

RAILROAD ARRANGEMENTS.

We are able to announce that arrangements have been made with the Pennsylvania Central, the Baltimore and Ohio, and the "Big Four," the three great through lines from Chicago to Washington, by which Physicians and their families can obtain transportation with return tickets at one and one-third rates.

Dr. Atkinson, the Secretary of the Association, informs us that the Western Passenger Association has refused to grant commutation upon the following roads: the Atchison, Topeka & Santa Fe, Burlington, Cedar Rapids & Northern, Burlington & Missouri, Chicago & Alton, Chicago & Northwestern, Chicago, Burlington & Northern, Chicago, Burlington & Quincy, Chicago, Milwaukee & St. Paul, Chicago, Rock Island & Pacific, Chicago, St. Paul, Minneapolis & Omaha, Chicago, St. Paul & Kansas, Hannibal & St. Joseph, Kansas City, St. Joseph & Council Bluffs, Illinois Central, Iowa Central, Milwaukee & Northern, Milwaukee, Lake Shore & Western, Minneapolis & St. Louis, Missouri Pacific, Rock Island & Peoria, Sioux City & Pacific, St. Louis, Keokuk & North Western, St. Joseph & Grand Island, Union Pacific, Wabash, Wisconsin Central. It may therefore be desirable for those who propose to go to Washington to secure tickets to Chicago, St. Louis or Cincinnati, and from thence avail themselves of the special rates.

We have received a further communication from Dr. Atkinson in which he states that all who buy tickets over the roads which have agreed to the certificate plan must obtain a certificate of the agent at the time of purchase. "This signed by me at Washington enables him to obtain a return ticket at one-third full rate." *No rebate will be allowed otherwise.* The following roads are all that agree to any reduction:

Trunk Line Association, comprising the Grand Trunk, New York Central & Hudson River, West Shore, N. Y. Central & Western, New York, Lake Erie & Western, Delaware, Lackawanna & Western, Lehigh Valley, New Jersey Central, Phila. & Reading, Pennsylvania, Baltimore & Ohio, Chesapeake & Ohio.

New York & Boston Lines Passenger Committee, comprising the New York, New Haven & Hartford, Old Colony, Old Colony Steamship Co., New York, Providence & Boston, Providence & Stonington S. S. Co., New York & New England, Norwich & New York Transportation Co.

Southern Passenger Association, comprising the Atlantic Coast Line, Atlanta & West Point, Brunswick & Western, Charleston & Savannah, Central of Georgia, East Tennessee, Virginia &

Georgia, Georgia Pacific, Georgia Southern & Florida, Jacksonville, Tampa & Keywest, Norfolk Western, Penna. south of Washington, Port Royal & Augusta, Raleigh & Gaston, Richmond & Danville, Richmond, Fredericks & Potomac, Savannah, Florida & Western, Sea Board & Roanoke, Shenandoah Valley, South Carolina, Western & Atlantic.

Central Traffic Association, comprising the territory bounded on the East by Pittsburg, Salamanca, Buffalo & Torouto; on the North by the line of the States of Ohio, Indiana & Illinois to the north line of Cook County; on the West by the west line of Cook County and the Illinois & Mississippi Rivers to Cairo, including Burlington, Quincy, Hannibal and St. Louis; and on the South by the Ohio River, but including points on either side of that river.

INSTRUCTIONS TO DELEGATES.

1. Each person must purchase (not more than three days prior to the date of the meeting nor later than three days after the commencement of the meeting) a first-class ticket (either unlimited or limited) to the place of meeting, for which he will pay the regular tariff fare, and upon request the ticket agent will issue to him a certificate of such purchase (Form 2), properly filled up and signed by said ticket agent.

2. If through tickets cannot be procured at the starting point, the person will purchase to the nearest point where such through tickets can be obtained, and there repurchase through to place of meeting, requesting a certificate properly filled out by the agent at the point where repurchase is made.

3. Tickets for the return journey will be sold by the ticket agents at the place of meeting at one-third the highest limited fare, only to those holding certificates (Form 2), signed by the ticket agent at point where through ticket to the place of meeting was purchased, and countersigned by the secretary or clerk of the convention, certifying that the holder has been in attendance upon the convention.

4. It is absolutely necessary that a certificate be procured, as it indicates that full fare has been paid for the going journey, and that the person is therefore entitled to the excursion fare returning. It will also determine the route via which the ticket for return journey should be sold, and *without it no reduction will be made*, as the rule of the association is that "No refund of fare can be expected because of failure of the parties to obtain certificates."

5. Tickets for return journey will be furnished only on certificates procured not more than *three days* before the meeting assembles, nor later than *three days* after the commencement of the meeting, and will be available for continuous passage only; no stop over privileges being allowed on tickets sold at less than full fares. Certificates will not be honored unless presented within *three days* after the date of the adjournment of the convention.

6. Ticket agents will be instructed that excursion fares will not be available unless the holders of certificates are properly identified, as above described, by the secretary or clerk, on the certificate, which identification includes the statement that one hundred or more persons, who have purchased full fare tickets for the going passage, and hold properly receipted certificates, have been in attendance at the meeting.

The certificates are not transferable, and the signature affixed at the starting point, compared with the signature to the receipt, will enable the ticket agent to detect any attempted transfer.

Section on Materia Medica and Pharmacy.

The Section on Materia Medica and Pharmacy will meet for organization at 2:30 P.M., on Tuesday, May 5, at a place to be named by the Committee on Arrangements of the American Medical Association.

In conformity with the report of the Committee on Conference, adopted at the last session, the American Pharmaceutical Association, by invitation, has appointed a Committee of twenty-five of its leading members, representing all sections of the United States, to attend this Section and contribute to its scientific proceedings. The afternoon of the second day will be devoted to the consideration of the United States Pharmacopœia, the discussion to be opened by Professors H. C. Wood, M.D., and Joseph P. Remington, Ph.G. As a number of members of the Committee on Revision of the U. S. Pharmacopœia will be present, such discussion cannot fail to be interesting and valuable.

Members of the American Medical Association engaged in teaching pharmacology are especially requested to manifest their interest in this new Section by registering their names as members and by contributing to its proceedings.

Titles of papers, with brief abstracts of contents, should be sent at once to the office of the Chairman, No. 218 S. Sixteenth St., Philadelphia, in order that they may be published in the official programme. Papers should not occupy more than fifteen minutes in delivery.

FRANK WOODBURY, Chairman.
W. G. EWING, Secretary.

NECROLOGY.

DR. HENRY WILLIAM STEPHENS of Brooklyn, N. Y., died February 22, in consequence, as is believed of an autopsical injury or infection. He was only thirty-three years of age and had been only eight years in the profession. He was a native of Saratoga Springs, a graduate of Williams College and of the College of Physicians and Surgeons, New York. After graduating he spent two years as interne in the New York Hospital, whence he went to Cheyenne and there remained in practice until last October. He then came East and, having made his residence in Brooklyn, was soon thereafter chosen assistant pathologist to the hospital above named. In the latter part of January, he had occasion, in the performance of his round of duty, to participate in an autopsy in a hydrophobic case, although at that very time having an unhealed dissection-wound and some inflammation of the left arm resulting therefrom. The old sore was broken in upon in the course of the hydrophobic autopsy, and Dr. Stephens deemed it wise to put himself under the treatment of Dr. Gibier of the Pasteur Institute. The

inoculation treatment was yet in progress when the ill-fated young pathologist was confined to his house by symptoms of peripheral neuritis. His sufferings were intense and were succeeded by paralytic symptoms, which were progressive and extended finally to the muscles of respiration, to remedy which resort was had to artificial respiration, maintained for over sixteen hours by the young man's medical friends and students from the New York Hospital. Consciousness persisted until a few minutes before the end. His loss is one not lightly to be measured, for he united to high native ability, a well trained judgment, as well as industry, courage and fidelity to duty.

MISCELLANY.

LETTERS RECEIVED.

Albany, N. Y., J. F. Madden.
Ansonia, Conn., McArthur Hypophosphite Co.
Baltimore, Md., Dr. H. Freidenwald, Dr. H. A. Kelly.
Birmingham, Ala., Dr. W. E. B. Davis.
Boston, Dr. Henry O. Marcy, R. Hodgson.
Buffalo Lithia Springs, Va., Thos. F. Goodé.
Chicago, Ill., Dr. J. H. Chew, Dr. D. A. Dobie, Dr. E. S. Talbot,
Rush Medical College.
Cincinnati, O., Dr. Chas. A. L. Reed.
Cleveland O., Mrs. F. J. Weed.
Detroit, Mich., Dr. A. L. Worden, Dr. L. S. Trowbridge.
East Pasadena, Cal., Dr. C. S. Gore.
Galveston, Texas, Dr. Geo. Dock.
Jacksonville, Ill., Ward Bros.
Jersey City, N. J., Dr. Wm F. Watson.
Kansas City, Mo., Dr. T. L. Bennett, Dr. F. B. Tiffany.
Long Beach, Cal., Dr. E. A. Dial.
Louisville, Ky., Dr. D. Reynolds, Robinson-Pettit Co.
Middlesborough, Ky., Dr. J. K. Kutnewsky.
Mt. Sterling, Ill., Dr. W. M. Cox.
New York City, Drevet Mfg. Co., American and Continental
Sanitas Co., Woman's Medical College, W. P. Cleary, Dr. P. A. Cal-
lan, Robinson-Baker Advertising Bureau.
Paris, France, J. Astier.
Parkersburg, W. Va., Dr. W. H. Sharp.
Philadelphia, Pa., Dr. W. B. Atkinson, Dr. R. J. Duglison, Dr.
H. A. Hare, Wm. R. Warner & Co., Dr. Benjamin Lee, Dr. Frank
Woodbury, Lea Bros. & Co.
Poughkeepsie, N. Y., Dr. Wm. Cramer.
Racine, Wis., Horlick's Food Co.
Sacramento, Cal., Dr. G. D. Stuniores.
St. Louis, Mo., Dr. R. M. Jordan, Dr. C. A. Todd.
Toledo, O., Dr. N. A. Hollister.
Wilkesbarre, Pa., Dr. Maris Gibson.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 4, 1891, to April 10, 1891.

Capt. Jno. Van R. Hoff, Asst. Surgeon, now in New York City, on leave of absence, is assigned to duty as an additional member of the board of medical officers constituted by par. 18, S. O. 82, March 7, 1891, from this office, to meet in New York City, for the examination of candidates for admission to the Medical Corps of the Army, etc. By direction of the Acting Secretary of War. Par. 6, S. O. 78, A. G. O., Washington, April 7, 1891.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Three Weeks Ending April 4, 1891.

Surgeon Walter Wyman, to inspect Delaware Breakwater Quarantine Station, March 27, 1891.
Surgeon George Purviance, detailed as Chairman, Board of Examiners, April 2, 1891.
Surgeon B. W. Sawtelle, to proceed to Rockland, Me., on special duty. March 25, 1891.
Surgeon J. M. Gassaway, granted leave of absence for five days, April 2, 1891.
Surgeon John Godfrey, detailed as member Board of Examiners, April 3, 1891.
Surgeon Fairfax Irwin, detailed as recorder Board of Examiners, April 3, 1891.
P. A. Surgeon C. T. Peckham, granted leave of absence for ten days, March 26, 1891.
P. A. Surgeon Eugene Wasdin, granted leave of absence for thirty days, March 27, 1891.
Asst. Surgeon W. G. Stimpson, to proceed to Charleston, S. C., for temporary duty, March 26, 1891.

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ORIGINAL ARTICLES.

SPONTANEOUS UMBILICAL HÆMORRHAGE IN NEWLY-BORN INFANTS.

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BY J. WESLEY BOVEE, M.D.,

VISITING PHYSICIAN TO WASHINGTON ASYLUM HOSPITAL, ATTENDING PHYSICIAN TO ST. ANN'S INFANT ASYLUM AND OBSTETRICIAN TO COLUMBIA HOSPITAL FOR WOMEN AND LYING-IN ASYLUM.

(Concluded from page 547.)

Diagnosis.—The diagnosis of this condition is usually not difficult. The appearance of blood on the dressings about the navel usually leads to examination of it and of the cord if still attached. The bleeding will be noticed in nearly every case. When it occurs from the end of the cord it may be mistaken for bleeding due to defective ligation. It may occur at various intervals and in small quantities, thus escaping detection. Especially will this be the case if the blood be very hydræmic or if containing much bile. If the bleeding of this nature be from the end of the cord successive ligation will probably prove futile and the true nature of the malady will be recognized. There will be evidences of a constitutional affection, denoted by purpuric spots, hæmorrhage from other parts of the body, jaundice and other unmistakable symptoms.

Treatment.—The treatment of umbilical hæmorrhage in newly-born infants is of great importance, as about three-fourths of the cases succumb to it and those that withstand it usually are much weakened for some time afterward.

Occasionally cases have recovered with very little treatment, and others have resisted all forms of treatment for weeks and ended fatally. These slow persistent cases have allowed sufficient time for all the different remedies that could possibly be suggested, each and all failing to permanently check the hæmorrhage, or at least, not averting death. Successive ligation, applications of astringents of every kind, caustics, the actual cautery, collodion, plaster of Paris, acupuncture, transfixion with double ligature, ligation *en masse*, ligation by the puckering string method, ligation of the hypogastric arteries and umbilical vein by

Dakin's²³ method and dissection about umbilicus with ligation of cord before its exit from the abdominal wall, have all been used in attempts to arrest omphalic bleeding in infants. Caustics and the actual cautery have done more harm than good, the bleeding usually beginning afresh as the slough comes away. The application of liquid plaster of Paris with proper ligation as first recommended by Churchill²⁴ is highly praised by Robinson²⁵ and others and was sufficient in one of the author's cases.

The ligature *en masse* is one of the most efficient topical remedies in use, but I think its benefit will be enhanced by the application over it of styptics and compression, or of plaster of Paris. Radford²⁶ recommended cutting down and ligating the umbilical vein, and Dakin ligates the umbilical vein or arteries, first passing on a level with the lower edge of the umbilicus. He uses a hare-lip pin, passing it through the abdominal wall, under the arteries, and back through the abdominal wall. This pin he finds sufficient to control arterial hæmorrhage and for venous hæmorrhage he applies a figure 8 ligature over the ends of the pin including the umbilicus in it. This treatment is very ingenious and I think easily performed. It deserves further trial.

Dr. L. Eliot,²⁷ of Washington, was, I think, the first to adopt the suggestion of Radford and ligate the cord in the abdominal wall. He did not save his patient, but had the operation been done earlier, before the child was exhausted from loss of blood, and without anaesthesia, I believe the result would have been better. Pout²⁸, 1822, reported a case in which death occurred from bleeding from the left hypogastric artery and stated that in a similar case he would cut down upon the arteries and tie them. He, probably, deserves as much credit as does Radford for the early suggestion of the operation performed by Dr. Eliot. In nearly every case the treatment has been entirely local, with, perhaps, the addition of some cholagogue cathartic as calomel or sulphate of soda, when marked jaundice was present.

The profession has been slow to believe that

²³ *London Lancet* 1880, i, 626.

²⁴ *Operative Midwifery*. Dublin, 1841, p. 296.

²⁵ *St. Louis C. M. J.* 1880, 30, 77.

²⁶ *Edinburgh Med. Jour.* 1822, p. 7.

²⁷ *Trans. Amer. Ass. of Gyn. and Obstet.* 1880, ii, 302.

²⁸ *Medico-Chir. Transact. London* 1822, x, 170.

this form of hæmorrhage was but a symptom of a general condition and have treated it locally instead of generally. The local treatment cannot be dispensed with but the internal administration of remedies to improve the condition of the blood and tissues in general is of great importance. The mineral acids, the muriated tincture of iron and tonics should be given. Brandy should be given to keep up the strength and in some cases ergot is admissible. The food should be the best, consisting principally of milk, and a building-up course instituted. If syphilis is present it must not be forgotten in the treatment. The general hygiene of the patient must be the very best. Prophylaxis might in a measure be carried out in the treatment of this trouble.

Dr. M. S. Perry²⁹ has treated mothers who have had children with hæmorrhagic diathesis in this way. He noticed women who were accustomed to take alkalies during pregnancy for dyspeptic or other symptoms were peculiarly liable to hæmorrhages after parturition. He accordingly gave mineral acids, instead, with good results.

It would be well to put mothers, during pregnancy, whose former children have had hæmorrhages shortly after birth, upon this treatment.

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²⁹ See *Minut. Amer. Jour. Med. Sci.*, 1892, xxiv, 310.

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NEONATORUM SPONTANEA, CHIRONOLOG-
ICALLY ARRANGED.

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19	Id . . .	Ibid.	R.
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36	Id . . .	Ibid.	D.
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43	Id . . .	Ibid.	M.
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45	Id . . .	Ibid.	M.
46	Id . . .	Ibid.	M.
47	Id . . .	Ibid.	M.
48	Id . . .	Ibid.	M.
49	Id . . .	Ibid.	M.
50	Id . . .	Ibid.	M.
51	Id . . .	Ibid.	M.
52	Id . . .	Ibid.	M.
53	Id . . .	Ibid.	M.
54	Id . . .	Ibid.	M.
55	Id . . .	Ibid.	M.
56	Id . . .	Ibid.	M.
57	Id . . .	Ibid.	M.
58	Id . . .	Ibid.	M.
59	Id . . .	Ibid.	M.
60	Id . . .	Ibid.	M.
61	Id . . .	Ibid.	M.
62	Id . . .	Ibid.	M.
63	Id . . .	Ibid.	M.
64	Id . . .	Ibid.	M.
65	Id . . .	Ibid.	M.
66	Id . . .	Ibid.	M.
67	Id . . .	Ibid.	M.
68	Id . . .	Ibid.	M.
69	Id . . .	Ibid.	M.
70	Id . . .	Ibid.	M.
71	Id . . .	Ibid.	M.

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75	Id . . .	Ibid.	M. R.
76	Id . . .	Ibid.	M. D.
77	Id . . .	Ibid.	M. D.
78	Id . . .	Ibid.	M. D.
79	Id . . .	Ibid.	M. D.
80	Id . . .	Ibid.	M. D.
81	Id . . .	Ibid.	M. D.
82	Id . . .	Ibid.	M. D.
83	Id . . .	Ibid.	M. D.
84	Id . . .	Ibid.	M. D.
85	Id . . .	Ibid.	M. D.
86	Id . . .	Ibid.	M. D.
87	Id . . .	Ibid.	M. D.
88	Id . . .	Ibid.	M. D.
89	Id . . .	Ibid.	M. D.
90	Id . . .	Ibid.	M. D.
91	Id . . .	Ibid.	M. D.
92	Id . . .	Ibid.	M. D.
93	Id . . .	Ibid.	M. D.
94	Id . . .	Ibid.	M. D.
95	Id . . .	Ibid.	M. D.
96	Id . . .	Ibid.	M. D.
97	Id . . .	Ibid.	M. D.
98	Id . . .	Ibid.	M. D.
99	Id . . .	Ibid.	M. D.
100	Id . . .	Ibid.	M. D.
101	Id . . .	Ibid.	M. D.
102	Id . . .	Ibid.	M. D.
103	Id . . .	Ibid.	M. D.
104	Id . . .	Ibid.	M. D.
105	Id . . .	Ibid.	M. D.
106	Id . . .	Ibid.	M. D.
107	Id . . .	Ibid.	M. D.
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111	Id . . .	Ibid.	M. D.
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113	Id . . .	Ibid.	M. D.
114	Id . . .	Ibid.	M. D.
115	Id . . .	Ibid.	M. D.
116	Id . . .	Ibid.	M. D.
117	Id . . .	Ibid.	M. D.
118	Id . . .	Ibid.	M. D.
119	Id . . .	Ibid.	M. D.
120	Id . . .	Ibid.	M. D.
121	Id . . .	Ibid.	M. D.
122	Id . . .	Ibid.	M. D.
123	Id . . .	Ibid.	M. D.
124	Id . . .	Ibid.	M. D.
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129	Id . . .	Ibid.	M. D.
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131	Id . . .	Ibid.	M. D.
132	Id . . .	Ibid.	M. D.
133	Id . . .	Ibid.	M. D.
134	Id . . .	Ibid.	M. D.
135	Id . . .	Ibid.	M. D.
136	Id . . .	Ibid.	M. D.
137	Id . . .	Ibid.	M. D.
138	Id . . .	Ibid.	M. D.
139	Id . . .	Ibid.	M. D.
140	Id . . .	Ibid.	M. D.
141	Id . . .	Ibid.	M. D.
142	Id . . .	Ibid.	M. D.
143	Id . . .	Ibid.	M. D.
144	Id . . .	Ibid.	M. D.
145	Id . . .	Ibid.	M. D.
146	Id . . .	Ibid.	M. D.
147	Id . . .	Ibid.	M. D.
148	Id . . .	Ibid.	M. D.
149	Id . . .	Ibid.	M. D.
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151	Id . . .	Ibid.	M. D.
152	Id . . .	Ibid.	M. D.
153	Id . . .	Ibid.	M. D.
154	Id . . .	Ibid.	M. D.
155	Id . . .	Ibid.	M. D.
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157	Id . . .	Ibid.	M. D.
158	Id . . .	Ibid.	M. D.
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161	Id . . .	Ibid.	M. D.
162	Id . . .	Ibid.	M. D.
163	Id . . .	Ibid.	M. D.
164	Id . . .	Ibid.	M. D.
165	Id . . .	Ibid.	M. D.
166	Id . . .	Ibid.	M. D.
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170	Id . . .	Ibid.	M. D.
171	Id . . .	Ibid.	M. D.

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No.	By whom Reported.	PLACE OF RECORD.	Sex.	Re- sult.
251	Cerv.	Vide Duplain.	D.	
252	Rotb.	Jour. f. Kinderk., Erlangen, 1868, li, 1-29.	R.	
253	König.	Ibid.	R.	
254	Margueritte.	Bull. de Therap., Paris, 1868, lxxiv, 271.	M.	
256	Kitchie.	Edinburgh Med. Jour., 1868, xiii, 1072-86.	F.	
257	Hamilton.	Ibid.	R.	
258	Syme.	Ibid.	R.	
260	Moir.	Ibid.	R.	
261	Burn.	Ibid.	R.	
262	Wilson.	Ibid. (also Ibid. 1867, ii, 949).	D.	
264	Adams.	Ibid.	M.	
265	Key and Rabbington.	Ibid.	M.	
267	Steny.	Ibid.	M.	
270	Simpson.	Ibid.	D.	
271			D.	
272			D.	
273			R.	
274	Raynal.	Thèse de Salut, 1869, Strasburg. (See also Ribemont.)	R.	
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276	Schauenberg.	Zu der Lehre von dem Verblutungen aus dem Nabel. Cereb. Nerviad und Leipzig, 8vo, 24 PP.	D.	
277	Paasch.	Beiträge z. Geb. u. Gynäk., Berlin, 1870-1872, i, 136-140.	R.	
278	Rittershain.	Oesterr. Jahrb. f. Pædiat., Wien, 1870, i, 15. Cases 278 to 409, inclusive; 59 females, 73 males; 96 deaths, 36 recoveries.	D.	
410	Stark.	Cincin. Lan. and Obs., 1871, xiv, u.s. 72-81.	M.	
411	Dessau.	Med. Record, N. Y., 1873, viii, 254.	M.	
412	Bridge.	Chicago Med. Jour., 1873, xxx, 595.	D.	
413	Marcellou.	Alger. Med., 1875, i, 30-37.	M.	
414	Sinclair.	Boston M. and S. Jour., 1875, x, u.s. 65.	D.	
415	Finkham.	Med. Record, N. Y., 1875, x, 165.	M.	
416	Latty.	Brit. Med. Journal, 1876, ii, 166.	D.	
417	Whitall.	Hospital Gazette, New York, 1877, i, 62.	M.	
418	Petit.	South. Med. Rec., Atlanta, 1877, xvii, 31.	R.	
419			R.	
420			D.	
421			D.	
422	Downs.	Med. Record, N. Y., 1878, xiii, 298.	D.	
423	Caro.	Ibid.	R.	
424	Hyrntschak.	Centr. Ztg. f. Kinder., Berl., 1878-9, ii, 355.	D.	
425	Lieven.	(See Maasmann.)	D.	
426	Maasmann.	St. Petersb. Med. Wochenschr., 1879, iv, 98.	M.	
427	Jellinek.	Wien, 1879, v, 39.	M.	
428	Weiss.	Prag. Med. Woch., 1879, 289-295; 301-304.	M.	
429			F.	
430			M.	
431			F.	
432			M.	
433	Junikowski.	Dwatygodnik Med. Pub. Krakow, 1879, lii, 7275.	D.	
434	Degeu.	Med. Cor. El. d. Würtemb. Ver. Stuttg., 1879, xlix, 217.	M.	
435	Glaister.	Lancet, London, 1879, i, 293.	M.	
436	Van Loon.	De Bloeding met de Navelstring, 8vo, Utrecht, 1879.	M.	
437			D.	
438			D.	
439	Ribemont.	Des Hémorrhagies chez le Nouveau-né. Paris, 1880, 4to. Cases 399 to 450, inclusive; 11 cases, 5 males, 2 females; 10 deaths, 1 recovery.	M.	
451	Depaul.	See Ribemont, p. 200.	M.	

TABLE OF CASES, CONTINUED.

No.	By whom Reported.	PLACE OF RECORD.	Sex.	Re- sult.
452	Charrier.	See Ribemont, p. 188.	M.	
453	Dubois.	Ibid., p. 169.	D.	
454	Baumgartel.	Zeitschr. f. Wundaszte u. Geb. Winnen- den, 1880, xxxi, 358.	M.	
455			D.	
456			D.	
457			M.	
458	Morel.	(Lenoe) Soc. Med. d'Amiens Bulletin. (1878-9), 1880, xviii and xix, 98.	R.	
460	Prewitt.	St. Louis Cour.-Med., 1880, iv, 69.	D.	
461	Barrett.	Ibid.	D.	
462	Rouse.	Mich. Med. News, 1881, iv, 38-40.	D.	
463	Reed.	M. and S. Rep., Phila., 1881, xlv, 345.	M.	
464	Keiller.	Edinb. Med. Jour., 1880-81, xxvi, 389-393.	M.	
465	Danyan.	(Oti) Va. M. and S. J., Oct., 1853, p. 957.	D.	
468	Lemere.	Gaz. Méd. de Picardie, Amiens, 1883, i, 117-119.	R.	
469	Abbe.	N. Y. Med. Jour., 1883, xxxviii, 193.	R.	
470	Ingram.	Louisville Med. News, 1884, xviii, 131-134.	D.	
471			M.	
472			M.	
473			M.	
474	Gibb.	Phila. Med. Times, 1883-84, xiv, 616-621.	F.	
475	Plant.	Arch. Pediat., 1884, i, 376.	R.	
476	Sibert.	Ibid., p. 307.	F.	
477	Hirsgen.	Arch. de Médecine, 1882-3, xlii, 565.	D.	
478	Raven.	Brit. Med. Jour., 1884, ii, 907.	M.	
479	Silverskiöld.	Eira, Göteborg, 1885, ix, 458.	F.	
480			M.	
481	Thayer.	N. Y. Med. Jour., 1885, xliii, 434.	R.	
482	Claudy.	Med. and Surg. Rep., Phil., 1885, liii, 331.	F.	
483	Young.	Ibid., p. 162.	F.	
484	Borelius.	Upsala, Lakaref. Förh., 1886, xxii, 40-44.	M.	
485	McCarty.	South. California Practitioner, 1887, ii, 211.	F.	
486			R.	
487	Gilroy.	Lancet, London, 1888, i, 621.	D.	
488	Tross.	Berlin Klin. Woch., 1888, xxv, 833-835.	D.	
489	Vancett.	Brooklyn Med. Jour., 1888, i, 219-229.	M.	
490	White.	Am. Jour. Obst., 1888, xxi, 48-54.	D.	
491	Manicus.	Jahrb. f. Kinderk. u. Phys. Erzieh., 1889, Bd. 27, 452.	F.	
492	Eliot.	Trans. Am. Ass'n Obstet'ns and Gyn., 1889, ii, 222.	M.	
493			F.	
494			F.	
495	Willis.	Med. and S. Rep., Phil., 1889, ix, 708-710.	R.	
496			R.	
497	Dakin.	Lancet, London, 1889, i, 626.	R.	
498			R.	
499			R.	
500			R.	
501			R.	
502			R.	
503	Lotze.	Eustace Smith, Dis. of Children, 2d ed., p. 764.	R.	
504	Laycock.	Med. World, 1890, viii, 733.	M.	
505	Partridge.	Med. Record, N. Y., 1890, xxxvii, 202.	M.	
506	Vogel.	Dis. of Children, Appleton's Med. Li- brary, 1890, p. 65.	D.	
507	Lee.	Cyclop. Dis. of Children, Phila., Lippin- cott & Co., 1890, iii, 688.	M.	
508			M.	
509			M.	
510	Campbell.	Arch. Pediat., Phila., 1890, vii, 449-450.	M.	
511	Smith, J. L.	Dis. of Children, 7th ed., 1890, p. 128.	D.	
512			D.	
513	Newman.	Not previously reported.	F.	
514			M.	
515	Bovee.	" " "	M.	
516			F.	
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518			M.	

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A CASE OF EXTRA-UTERINE RETRO-PERITONEAL PREGNANCY IN THE SEVENTH MONTH.

Read before the Chicago Gynecological Society, December 10, 1890.

BY W. W. JAGGARD, M.D..

PROFESSOR OF OBSTETRICS, CHICAGO MEDICAL COLLEGE, AND OBSTETRICIAN TO MERCY HOSPITAL, OF CHICAGO.

As my contribution to this evening's discussion, I beg to report a case of extra-uterine, retro-peritoneal pregnancy that is especially noteworthy on account of its clinical course, anatomy, diagnosis, and treatment.

History (Dr. Fitch C. E. Mattison).—Mrs. L. S., 36 years 6 months old, born in Altenberg, Saxony, coachman's wife; 5 feet 3 inches in height, 130 pounds in weight. Family history good; mother living, father died from septicæmia following injury to the hand.

Married two years ago (September 23, 1888). Date of commencement of last menstruation, April 15, 1890; first pregnancy. Course of early pregnancy distinctly abnormal; patient said she was in bed at least three days out of the seven from pain and weakness.

Dr. Fitch first saw the patient September 23, 9:30 A.M., when he found a woman, with a large abdominal tumor, in a condition closely bordering on collapse. She was cold, pallid, nearly pulseless, and vomited incessantly. Pulse 150, temperature 97° F.; relative suppression of urine (3 ounces non-albuminous urine by catheter). Mind clear; patient complained of difficulty in breathing rather than of positive pain. The patient and her friends informed Dr. Fitch that the alarming condition had developed gradually during the past three days, apparently in consequence of a day's washing. Dr. Fitch concluded that the abdominal tumor was the pregnant uterus. Upon vaginal examination he found the vaginal portion of the cervix uteri unchanged, and perceived no bleeding from the os. Upon the application of the usual remedies—dry heat and diffusible stimulants—the patient did not react.

At 4 P.M., I saw the case in consultation with Drs. F. E. Waxham, Bayard Holmes, and Fitch C. E. Mattison. The woman showed such ominous signs of considerable internal hæmorrhage and of severe shock that I thought death certain. Her mind, however, was clear, and Dr. Fitch informed us that her general condition was not more unfavorable than in the morning.

The fact of pregnancy was evident from the appearances of the mammae alone, without reference to the changes in the pelvic genitalia, or to the history of amenorrhœa in a woman previously healthy and perfectly regular. But the nature of the pregnancy and the cause of the bleeding were obscure.

Inspection revealed a single, symmetrical abdominal tumor as large as the gravid uterus at

the seventh month, with an arcuate fundus. Each horn extended upward to the lower border of the false ribs, while the median furrow dipped downward to a point four centimetres above the umbilicus. The size and shape of the tumor were suggestive of twin pregnancy. On palpation the walls of the tumor were so tense and unyielding that it was impossible to outline any contained object or to practice ballottement. Alternations in density—that is, intermittent uterine contractions—were notably absent. The tumor was absolutely flat on percussion. Maternal heart tones and pulsations of the aorta were transmitted with uncommon clearness and distinctness over all areas, but fetal heartbeats and uterine souffle could not be detected. Upon examination per vaginam it was evident, from the conical shape of the vaginal portion of the cervix uteri and from the persistent hymen, that the woman was a primipara. The vaginal portion of the cervix, three centimetres in length and unchanged, seemed relatively hard for such an advanced pregnancy; it was displaced to the right of the median line, and the os externum was closed. The vaginal vault, symmetrically convex downward, and apparently filled out by the head well engaged within the pelvic cavity, was directly continuous with the vaginal portion, and presented the sensation of equal resistance in all directions. Upon withdrawal of the finger it was found to be stained with blood, although there was no external hæmorrhage. The bladder contained one ounce of non-albuminous urine.

The diagnosis seemed to me to lie between intra uterine hæmorrhage from premature detachment of the normally implanted placenta, and hæmorrhage into the placenta of an extra-uterine pregnancy, with the weight of evidence in favor of the former view. Rupture of the normal uterus, or of the adventitious uterus of ectopic gestation, could be definitely excluded by reason of the single, symmetrical, perfectly circumscribed character of the tumor, and on account of the absence within the peritoneal cavity of fluid or unusual solid objects. In this opinion the other consultants concurred.

Any operative interference at this time was clearly contraindicated—first, because the woman appeared to be *in articulo mortis*; and, second, since the tumor had persisted of the same size at least since morning. There was nothing to be gained and very much to be lost by the immediate removal of such a mass of blood already extravasated. Accordingly, at Dr. Holmes' suggestion, we determined to transfuse and to await developments. Twenty ounces of the physiological salt solution (0.6 per cent.) were injected by means of Allen's surgical pump into the subcutaneous connective tissue about the inferior angles of the scapulae and over the lumbar region. The insertion of the needle caused little

pain, and the injection of the solution and its dispersion by rubbing only slight discomfort. About one-half hour was occupied in the act of transfusion, and at the end of this period no apparent effect on the circulation was observed. Dr. Holmes thought there was an increase in the volume of the pulse, but I was unable to perceive any change. Dry heat to the body was continued, and rectal alimentation (six ounces of peptonized milk every eight hours) was recommended.

Then we left the patient in the care of Dr. Fitch, with the understanding that in the event of death we should be summoned to the autopsy, or, in case of sufficient reaction, to the woman's active relief. 10:30 P.M.: Pulse 150, temperature 97° F.

Second day, September 24, 7 A.M.: Pulse 130, temperature 100½° F.; 2 ounces of urine by catheter that contained neither sugar nor albumen. The woman rose from her bed without aid and walked across the floor. 10:30 A.M.: Consultation. Improvement was marked, in consequence of, or independent of, the transfusion and rectal enemata. No apparent change in the abdominal tumor nor in the vaginal portion of the cervix uteri; slight oozing of blood from the os externum. Upon careful and prolonged physical examination of the abdomen no additional facts were discovered. The woman was still too feeble to bear a severe operation; she had plainly gained during the night; moreover, the case looked more and more like an example of accidental hæmorrhage, so we determined to wait. Enemata of peptonized milk, and ammonium carbonate per os, since the vomiting had ceased, were recommended.

10 P.M.: Pulse 120, temperature 99° F. Patient complained of pain in the region of the abdominal tumor, but no contractions were perceptible and no effect upon the vaginal portion of the cervix was apparent. Morphine hypodermatically.

Third day, September 25, 7 A.M. Pulse 100, temperature 99½° F.; 2 ounces of urine by catheter that contained neither sugar nor albumen. 10:30 A.M., consultation. General condition much better than at any time since we saw the case. No change in the abdominal tumor nor in the vaginal portion. Again, for the third time, we discussed at length the propriety of exploratory dilatation of the cervix and of exploratory laparotomy, but, in view of the apparent nature of the case and of the distinct and progressive gain, we decided to wait. We left the case in Dr. Fitch's care, with the understanding that we should be called in the event of any change for the worse. 9:30 P.M.: Pulse 98, temperature 99½° F. Voided voluntarily 6 ounces urine since previous night.

Fourth day, September 26: Pulse 100, temperature 99°. Voided 8 ounces urine, passed a

comfortable night, moved about in bed, and sat up in a chair while the mother made the bed. Drank with relish large quantities of peptonized milk. No change in the abdominal tumor nor in the vaginal portion of the cervix.

9 P.M.: Pulse 100, temperature normal; urine, 10 ounces since morning.

Fifth day, September 27, 8 A.M.: Pulse 96, temperature normal; 20 ounces of urine. Patient passed a comfortable night, but complained of some pain in the back and in the region of the lower abdomen. No change in the abdominal tumor nor in the vaginal portion of the cervix.

9 P.M.: Pulse 100, temperature normal; 36 ounces of urine.

Sixth day, September 28, 8 A.M.: Pulse 96, temperature 99½° F.; 26 ounces of urine. Patient passed an uneasy night, restless, and complained of pain. Slight bowel movement. One teaspoonful and one half of compound licorice powder was followed by five free discharges of fluid feces; complained of considerable abdominal pain. No local change. 9 P.M.: Pulse 120, temperature 101° F.; 40 ounces of urine; slight discharge of blood per vaginam.

Seventh day, September 29, 8 A.M.: Pulse 112, temperature 101° F.; 20 ounces of urine. Bowels moved four times during the night, with pain, and the discharge of large quantities of fecal matter. No local change.

9 P.M.: Pulse 120, temperature 102° F.; bowels moved four times since morning, but pain slight.

Eighth day, September 30, 8 A.M.: Pulse 104, temperature 101¾° F.; great pain.

9 P.M.: Pulse 114, temp. 103½° F.; great pain.

Ninth day, October 1, 8 A.M.: Pulse 116, temperature 102¾° F. Passed a comfortable night. Rigor at 7:30 A.M.

10:30 A.M.: Consultation. I saw the case for the fourth time with Drs. Waxham, Holmes and Fitch. Marked changes had occurred in the abdominal tumor. It had increased slightly in size and was notably emphysematous; on percussion the sound, while not absolutely flat, was still not resonant, as in physometra. Even on this occasion it was impossible to outline the body of the fetus. Vaginal portion of the cervix uteri absolutely unchanged; slight oozing of blood from the os externum.

Plainly the woman was the subject of septic infection that had its origin in the abdominal tumor, and the indication for active treatment seemed absolute. We discussed exploratory abdominal section and exploratory dilatation of the cervix, and decided in favor of the latter. The patient's critical condition was fully recognized, and her friends were informed of the possibility of death during the operation.

Operation 11 A.M. Ether narcosis. Patient placed on a table, and with all antiseptic precautions, I dilated what I supposed to be the cervix

uteri by means of Hegar's bougies and Robert Barnes' water bags. Upon the introduction, without violence, of a Hegar bougie No. 6 through the os externum, a free discharge of liquor amnii stained with blood occurred. Uncommon difficulty was encountered in the use of Barnes' bags. Finally, however, with Dr. Waxham's aid, I succeeded in passing two fingers into what I thought was the cavum uteri, recognized the foetal head, with the occiput to the right and posterior, O. D. P. Failing to turn by the method of Braxton Hicks, the canal was further dilated, the right hand introduced, and version by the feet with immediate extraction easily accomplished. The child, male, was dead and macerated, its tissues emphysematous. The placenta, detached for one-half, was found to be firmly adherent for the rest of its area to the site over the right antero-lateral wall of the cavity. Several bands of dense connective tissue were sawed through by the hand, and the after-birth delivered. During version I felt the promontory of the sacrum and the pulsation of the aorta with alarming distinctness; but it was only after delivery of the placenta that I recognized the fact of extra-uterine pregnancy. At this time I felt the posterior surface of the normal uterus, heretofore covered in part by the placenta.

The woman was put to bed and dry heat applied; death followed in a few moments. The duration of the operation was one and one-fourth hours; the total quantity of blood lost slight. I attribute death immediately to the combined effect of trauma and ether.

Autopsy.—A limited post-mortem examination was permitted and at once performed. Peritoneal cavity dry, free from blood; a few adhesion bands, evidently old, stretched between adjacent coils of small intestine, but the structures were not matted together in any important degree. The mesentery, unfolded, and the small intestines greatly separated by the unfolding of the mesentery, together with the unfolded right broad ligament and the normal uterus, constituted the anterior covering or wall of a large sac that extended from the pelvic floor below to the transverse mesocolon above. The thickness of this anterior wall was not much greater than that of the mesentery and flattened-out small intestine, except in the region of the placental site—the under surface of the right broad ligament and the upper posterior surface of the uterus. Here the wall was one centimetre in thickness, and contained a broad stratum of non-striated muscular fibre, the only visible sign of an adventitious uterus. Upon the removal of the anterior covering the posterior wall was found to be the usual undifferentiated sub-peritoneal connective tissue.

The cavity thus bounded was chiefly abdominal, to a lesser degree pelvic. It was extra-uterine and retro-peritoneal. In addition to old blood

clots and fragments of the foetal envelopes, the cavity contained several lumps of maternal faeces; two perforations through the inferior border of the small intestine were discovered, probably due to pressure atrophy.

The uterus, slightly deflected to the right of the median line, enlarged to a degree corresponding to the tenth week of pregnancy, presented the following measurements: Length, equally distributed between corpus and cervix, 10 cm.; thickness of the wall of the corpus, 2.5 cm.; of vaginal cervix, 1 cm. The uterus was situated directly in front of the child's head. Examination showed that the lower mouth of the canal, through which the foetus had been delivered, consisted in the os externum, while the mouth communicating with the sac was a rupture through the posterior wall of the lower uterine segment, at a point where the tissue was as thin as blotting paper. In other words, I had passed the bougie per os externum through the posterior wall of the supravaginal portion, thinned out from pressure atrophy. The decidua vera, partly detached, had not been extruded from the cavum uteri.

The left ovary and Fallopian tube were apparently normal; the tube was pervious; no corpus luteum. The right ovary and tube were completely lost in the gestation sac.

The placenta, pretty well disintegrated by the force of the original hæmorrhage and by subsequent changes, showed a few white infarcts and several bands of tough connective tissue that firmly bound the organ to its site over a considerable area. The after-birth was also studded with old coagula. Fragments of chorion and amnion were visible, attached to the placental edges. The foetus, male, well developed, macerated, 1,165 gm. in weight, 40 cm. in length, corresponded to the seventh month of pregnancy.

The items in the history of this melancholy case that I beg to call particular attention to are:

1. This case presents a typical example of the classical picture of extra-uterine pregnancy, in that the anomaly occurred in the person of an old primipara that had been married for some time before the event of pregnancy. It is true, the right tube and ovary were involved, instead of the same organs on the left side; but then the dissection of specimens collected within recent years shows that the election of the left side is not of such relatively frequent occurrence as was formerly believed to be the case.

2. The anatomical findings indicate that the pregnancy, originally tubal or ovarian, developed in the cavity of the right broad ligament. Later the ovum passed up into the abdomen, lifting up the peritoneum and unfolding the mesentery, still maintaining its extraperitoneal character. Death of the foetus, from hæmorrhage into the placenta, probably occurred about the time and in conse-

quence of the day's washing, already mentioned. The bleeding, however, took place within a closed sac, and the hæmorrhage ceased when the pressure of the extravasated blood became equal to the general blood tension of the mother. Infection doubtless resulted from perforation of the small intestine, although, of course, other modalities are possible.

It is of interest to note that the cervix persisted in its original virginal length. That is to say, the anatomical os internum was situated midway between os externum and fundus, in a uterus hypertrophied under the influence of extra-uterine pregnancy to a degree corresponding to the tenth week. In pregnant uteri of the same date, the cervix is both relatively and absolutely shorter. (Compare Braum, "Der männlich und weibliche Körper in Sagittalschnitt," Leipzig, 1872; Bencikser, "Beiträge zur Anatomie des schwangeren Uterus," Stuttgart, 1887, Taf. i.). Does not this fact seem to indicate that during pregnancy the supravaginal portion of the cervix uteri is dilated from above downward, or, in other words, that the lower uterine segment is derived, in part at least, from the cervix?

3. As regards *diagnosis*, all the medical men connected with the case must feel some degree of chagrin over the failure to locate exactly the pregnancy.

Still, the fact that four medical men, not without experience in this class of cases, and presumably qualified, deliberately, and independently of each other, formed the same opinion, though an erroneous one—this fact indicates that the case presented extraordinary difficulty. Possibly, also, this fact may add to the instructive value of this communication. Furthermore, the circumstances under which we saw the case were unfavorable to an accurate diagnosis. We first saw the woman in a state closely bordering on collapse, and her precarious condition at a later period seemed to contra-indicate the exposure and fatigue incident to a more thorough examination. Then, too, an account of the character of the abdominal tumor already mentioned, we were utterly unable to elicit, by the usual method of physical exploration, sufficient signs to constitute a positive diagnosis. During the course of the case, however, there were presented certain significant signs that deserved clearer recognition and more exact valuation. Some of these significant signs were:

1. The abdominal tumor was absolutely quiescent throughout the period of observation. The woman, indeed, at times complained greatly of abdominal pain, but this symptom was not attended by rhythmical contractions, with their characteristic changes in the contour and consistency of the tumor. In the severest cases of "accidental hæmorrhage" some sign of uterine contractions is almost always manifested within

twenty-four or forty-eight hours after the occurrence of the accident.

2. The maternal heart tones were transmitted uncommonly clearly and distinctly over all areas of the tumor, and the uterine soufflé was absent.

3. The vaginal portion of the cervix uteri persisted relatively hard and unchanged in length throughout the eight days of observation. Every one is familiar with Goodell's off-hand rule: "When the cervix is as soft as one's lips, the woman is probably pregnant; when it is as hard as the tip of one's nose, the womb is most likely empty." In this case the vaginal portion was softened, yet not to the degree commonly observed at the seventh month. The persistence in the length of the vaginal portion—absence of effacement and dilatation—was still more significant. In all these cases of "accidental hæmorrhage" that I have observed, marked changes in the vaginal portion appeared and progressed within the first twenty-four hours after the accident.

4. The vaginal portion of the cervix was distinctly deflected to the right of the median line.

The evidence accumulated from these four signs, although negative in character, was still of a degree to overbalance the evidence in favor of "accidental hæmorrhage," which, as before remarked, consisted in the fact of advanced pregnancy, of the single, symmetrical form of the tumor, of the apparent direct continuity of the abdominal and pelvic tumor, of the vault of the vagina convex downward and filled out by the head. At least the negative evidence ought to have deterred from a therapy based upon an absolutely positive and exclusive diagnosis.

The fact that the hæmorrhage through the os externum was an insignificant oozing might be interpreted as equally in favor of both "accidental hæmorrhage" and extra-uterine pregnancy. I have encountered examples of the former anomaly in which scarcely a drop of blood escaped into the vagina.

Finally, an exploration per rectum was not made. Such an examination, I believe, might have revealed the real nature of the case.

4. Under the topic of *treatment* I wish to mention: 1. The apparently important effect of the subcutaneous injection of the physiological salt solution. The total quantity injected—twenty ounces—was absorbed without local reaction within twelve hours after the operation. At the same time, however, peptonized milk was exhibited per rectum. 2. Two procedures were discussed when we first saw the woman and at each subsequent meeting. These were, in view of the uncertain diagnosis, exploratory abdominal section and exploratory dilatation of the cervix uteri. In the light of the autopsy, laparotomy would have accomplished nothing except to reveal the nature of the case, because the small intestine was so generally distributed over the an-

terior wall of the sac, because the product of conception was retroperitoneal, and because the retroperitoneal connective tissue had been extensively dissected up in all directions. It would not have been possible even to ligature, on the peritoneal side, the uterine, ovarian, and spermatic arteries before their distribution to the placenta, for the reason that the relations of these vessels were so distorted that they were not found after prolonged search during the autopsy. Exploration through the cervix, therefore, was indicated, and it was only unskilful or unfortunate use of the sound that led to the serious mistake in the operation. Under the conditions of the case, the vaginal operation for advanced extra-uterine pregnancy would have been the operation of election, even in the presence of the risk of bleeding from the placental site.

It may be urged, in criticism of the management of this case, that the golden opportunity for operation was presented and lost, when the patient had recovered in some degree from shock and hæmorrhage, but had not yet become infected. In reply to this, I desire to say that while the actual time of the operation was unfavorable, still it was the only time we were summoned to the case when the indication for interference was absolute. As a matter of fact, I believed the woman received a necessarily fatal injury when the original hæmorrhage into the placenta occurred, and when the retroperitoneal connective tissue was so extensively destroyed.

2330 Indiana Ave., December 19, 1890.

TREATMENT OF GALLSTONES.

Read before the New York State Medical Society, February, 1891.

BY WILLIAM WOTKYNs SEYMOUR, A.B. (Yale),
M.D. (Harvard);

OF TROY, N. Y.

FORMERLY HOUSE-SURGEON OF THE POSTON CITY HOSPITAL; MEMBER OF THE AMERICAN AND BRITISH MEDICAL ASSOCIATIONS; FELLOW OF THE N. Y. STATE MEDICAL ASSOCIATION AND OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNÆCOLOGISTS; PROFESSOR OF THE SURGICAL DISEASES OF WOMEN IN THE UNIVERSITY OF VERMONT.

In considering the treatment of gallstones we have to consider the treatment during the paroxysm, during the intervals between the paroxysms, medical and surgical measures for their radical relief and the constitutional vice leading to their formation. During the paroxysms I do not think anything superior to hypodermatic injections of morphine and atropine. They are capable of very accurate dosage, but must be very carefully employed, for some patients are extremely susceptible to these drugs and one who has long had the drugs only with benefit may suddenly be thrown into a very alarming condition by the usual dose. I should in an adult prefer to administer repeated doses of a $\frac{1}{4}$ grain of morphine and a 1-150 grain of atropine, than to

give as some do at the very outset $\frac{1}{2}$, 3-4, or even a grain of morphine. To the hypodermics, chloroform or ether by inhalation are the only possible rivals, with the added disadvantage that in employing the anæsthetics, we expose the patient to the dangers of anesthetization.

My friend Dr. James Hutchison, of Troy, not infrequently has employed chloroform hypodermatically as an adjunct to the administration of morphine and atropine, and has found it of excellent service. He first injects a half drachm of pure chloroform, and follows it by an injection of morphine and atropine. The chloroform acts almost instantly in relieving the pain and its influence persists until the morphine and atropine begin to exert their influence.

With morphine alone I have never had such prompt results as with a combination of it and atropine. The atropine, by relaxing the muscular fibers of the gall-bladder, and of the abdominal muscles, puts in abeyance one of the most potent factors of gallstone-colic. The present formula I use is Magendie's solution with half grain of sulphate of atropia to the ounce. Formerly I used a grain of atropine, but I found the amount of atropine altogether too large; giving rise, in some cases, to paresis of bladder lasting for several days, hallucinations of sight, together with dryness of the throat that was most tormenting. If the agonies did not yield promptly to hypodermatics of morphine and atropine I would certainly have recourse to chloroform or ether by inhalation, personally I would prefer chloroform, especially if it be administered, as it ought, by the physician. Not merely do morphine and atropine, as well as the anæsthetics, relieve the pain, but they produce such relaxation of the tissues involved that the expulsion of calculi is greatly favored. Whether prolonged anesthetization and the consequent saturation of the tissues with them can have any actual solvent power on calculi, I think very improbable, although some practitioners are inclined so to believe, as a result of their trials in some severe cases. If from any reason we can not employ drugs hypodermatically, they may be administered by the rectum in shape of enemata or suppository, by the mouth, or has very recently been suggested, in the case of morphine, by insufflation into the nose. As a rule, vomiting precludes giving medicines by the mouth, and we are consequently limited to the rectal, nasal or epidermal methods, and for these methods, morphine and atropine or the various preparations of opium and belladonna are the main stays. Hot baths during the paroxysms are of great service.

From the fluid extract of wild yam (*Dioscorea Villosa*) I have had very good results in some cases. The relief from pain has been very prompt at times, but it has the disadvantage of being only administered by the mouth and its vile taste

is very difficult to conceal. As to chloroform, ether and turpentine by the mouth, alone or in their various much lauded combinations, I have met with few stomachs which could bear them, and where they were borne, I have seen no benefit which could not be sooner attained by morphia and atropine. As to their solvent action, more will be said anon. Large doses of olive oil have some effect, as has been shown in recent experiments in increasing the flow of bile, but its reputation for expelling enormous numbers of calculi depends upon masses of saponified oil being mistaken for gallstones. Harley, however, is inclined to believe that oil removes what he terms sleatomatous concretions.

In the case of a person who is subject to these attacks it is, I think, desirable to advise their always having about them some preparation of opium in case they are attacked on a railway journey or anywhere where immediate assistance is uncertain. Any one who has endured the tortures of an attack when assistance was not to be had will appreciate the sense of security thus given. The vomiting is often one of the most harassing features of these cases and the twisting contractions of the empty stomach, multiply manifold the agonies of the extrusion of the stone. In such circumstances it is good practice to keep filling the stomach with warm water so that it may have something to contract upon. The relief from this simple procedure is most welcome, as any who have been "through the mill" can testify.

After the termination of a paroxysm we are confronted with the question of treatment to eradicate the disease. For an understanding of the indications we must bear clearly in mind the constitution of the calculi, the location in which they are formed and the conditions favoring their formation. The calculi consist almost entirely of cholestone in combination with salts and biliary coloring matter in various proportions. They occur at every period of life, although more common after thirty years, and have even been found in the fetus, and have been found every where in the biliary canals, from the liver to the duodenum. That gallstones are not formed in the gall-bladder alone seems to be very generally overlooked, and hence has arisen the illogical advocacy of some surgical procedures as methods of election. Normal bile is thin and alkaline or neutral in its reaction, and whatever favors its becoming thicker or acid favors the precipitation from out of it the cholesterine nominally present. Probably the most common cause is catarrhal affections of the bile ducts and gall-bladder which are in two ways favorable to the formation of calculi, the first by the formation of mucus which splits up the unstable bile salts, and, second, by the obstruction arising from catarrhal swelling checking the flow of bile, favoring the reabsorption of its watery

elements and the precipitation of the cholesterine held in solution. A dietary rich in fats, a sedentary life with full diet, and paludal poisoning seem to favor the formation of gallstones. Hence we should interdict fats and sugar, encourage exercise and combat every malarial taint.

Although ether, turpentine, and chloroform have long had a reputation in gallstone cases and many have claimed for them, especially in the well known Durande Mixture, a true solvent action on the stones, the evidence is that not only do they have no such action, but that even if the stomach can bear them they do not in my experience and that of my friends of whom I have inquired, relieved the pain. Buckler *Boston Med. and Surg. Journal*, October, 1879, claimed that 5ss doses of chloroform every four hours combined with the saccharated succinate of iron 5 t.d. would actually dissolve calculi in the gall-bladder. But while benefit has undoubtedly followed the administration of these drugs, especially of the succinate of iron, I think it is unproven as yet that they have actually dissolved or eroded stones. Even in a test tube containing several volumes of chloroform I have failed to dissolve cholestone stones of less than 6 grains in five hours. The cholate of soda recommended by Schiff and Dabney occupies a somewhat different position, although its solvent action is not proved, yet it supplies to the blood a salt in such form as to be very favorable to the maintenance of the alkalinity of the bile and the retention in solution of the cholestrine. However, it is from the salts of soda or to the vegetable acids that by common consent we are to expect the best results, if not in dissolving, at least in preventing the formation of calculi. Although Harley thinks that with the alkalies one can as surely dissolve calculi as when in a test tube, it does not seem rational, and proof is certainly wanting of their solvent action. However there can be but little doubt that they are very efficient in removing the catarrhal conditions of the biliary canals and in maintaining the solubility of the cholestrine.

Harley prefers the sulphate and bicarbonate of soda. Bartholow the phosphate of soda. In my own cases I have especially used phosphate and salicylate of soda with excellent results; not, I am free to admit, with any hope of dissolving stones already formed, but with the hope of correcting the conditions favoring their formation. With these salts I have not infrequently employed the wild yam and Carlsbad salts and iron, and have frequently been pleased with the long immunity from attacks and the improved condition of health. From what I have already said it may easily seem that I do not believe gallstones are ever dissolved in the body. Patients may remain years without an attack in apparent

health and like the late Dr. Sabin, of West Troy, may credit daily doses of bicarbonate of soda with removing the stones and curing the disease, and yet years later have sudden fatal attacks, as in Dr. Sabin's own case, and a gall bladder filled with stones. For some years I have inquired of my professional acquaintances how many fatal cases of gallstones they have seen, and very large though the number has been, it does not in my opinion represent a third of the direct mortality, and when the secondary effects are considered, chronic diseases of the liver, cancer, etc., recurrent gallstone attacks must answer for a very large mortality.

My belief is that in all cases where the attacks recur with frequency and severity in spite of a moderately prolonged treatment with the alkalis, iron and wild yam, operation is the only wise course to pursue. But I mean operation not as a forlorn hope, but before the powers are broken by incessant, agonizing pain, impaired digestion, or cholæmia. In ordinary cases operation will not be difficult, but in neglected cases, cases with repeated attacks of local peritonitis, with prolonged jaundice and large impacted stone, the operation may try severely the most accomplished surgeon, and the mortality instead of being 5 per cent. may amount to 25 or 30 per cent.

It is not fair to decry the results of surgery in these cases when months have been allowed to pass by during which the patient has been racked with pain, weakened by impaired digestion, or so poisoned by prolonged retention of bile that all the vital organs, especially the heart, are at their lowest. What the profession at large must learn and must teach, is that in early operation in the hands of expert abdominal surgeons, the mortality is as low as, or even lower than, in ovariectomy. The sentiment of the profession ought soon to become such that the man who in a case of intense jaundice from impacted stone or repeated attacks of colic allows a patient to go months without surgical relief will be regarded as culpable as he who waits until stercoraceous vomiting has occurred in strangulated hernia before advocating operation. It has been my fortune to see several cases in which even eminent medical men have "monkeyed" week after week with such cases, and have decried operation as unjustifiable because of the presence of a suppurative cancer, until after months of suffering the patients have either temporarily recovered or died from gallstone accident, and no cancer has been found. Certainly a careful exploratory incision, even in such cases, can do no harm, and the patient ought to be given an early opportunity to have the doubt settled, when, if ever, operation will avail.

Now as to the methods of operation, we can limit ourselves to two, both of which are now not rarely done; cholecystotomy or incision of the gall-

bladder, and cholecystectomy or excision of the gall-bladder. Although favored by such brilliant surgeons as Sir Spencer Wells (Bradshaw Lecture, 1890), by Kocher, of Bern, and others, I can but regard excision of the gall-bladder as a thoroughly irrational procedure when done as an operation of election. It starts with the unwarranted assumption that the gall-bladder is the only organ in which gallstones are formed and that with its removal the *fons et origo Mali* is removed. Were gallstones formed in the gall-bladder *alone* there would be little justification for the removal of the organ; save if it could be shown that the mortality of excision was better than that of cholecystotomy. But in addition to the fact that the gall-bladder probably has some physiological office besides being a receptacle for bile the results had from excision are very much worse than from incision, drainage and suture of the organ to the abdominal walls. In cases of hæmorrhage, contracted gall-bladder, or where all the tissues are matted together, we may be driven to removing the organ, but as an operation of election it ought never to be entertained. On the other hand, cholecystotomy with suture of the gall-bladder to the abdominal wall after opening and evacuating the gall-bladder, permits the excision or crushing of stones in the common duct and affords an outlet to the bile, until any inflammatory or traumatic swelling of the ducts has subsided. Furthermore, if a stone in the common duct has been overlooked, by establishing a biliary fistula the cholæmia is relieved and one can later attack the impacted stone. If, however, a stone impacted in the common duct is overlooked when the gall-bladder is removed, one of two things must speedily ensue, either a forcing of the ligatured cystic duct by the retained bile and consequent fatal peritonitis, or fatal cholæmia.

The objections to suturing the gall-bladder and dropping it back into the belly are, that it exposes the patient to the risk of the sutures being forced by retained bile, especially if a stone in the common duct has been overlooked, and the mortality of this operation has justified the theoretical objections. To doing the operation in two stages, first suturing the gall-bladder to the abdominal wound and opening it later when adhesions have formed, the objection is that immediate incision with suture to the wound has proved reliable and consequently the double-timed operation is unnecessary.

The objection to cholecystotomy that a fistula sometimes remains is of little consequence in view of the enormous advantage it offers over the several operations, and obstinate fistula occur most commonly where stones in the common duct have been overlooked. But even this rare sequence has been cured by both Grig Smith and Winthorpe through cholecysto-enterostomy; that is in uniting the gall-bladder to the intestine and

subsequently closing the external opening. The attachment of the gall-bladder to the abdominal wall gives rise to no discomfort after a few weeks, and during the first few weeks it is very slight. In my own case I have fenced, sparred, swum and rowed without the slightest discomfort and without harm.

In a paper read before the American Association of Obstetricians and Gynecologists, in September, 1890 (New York *Medical Record*), I advocated as a result of an observation in one of my own cases, the attempt, in cases of contracted or friable gall bladder, instead of extirpation of the organ, to make out of the omentum an artificial sac and to stitch it into the abdominal walls, with drainage. Very pleased was I subsequently to learn that this had already been successfully put in operation by Mayo Robson.

My conclusions are:

1. That it is as hopeless to expect to dissolve gallstones as to dissolve stone in the bladder.
2. Protracted medical treatment should give way to operative measures in face of increasing frequency and severity of attacks.
3. Operation should be done early and not delayed until a forlorn hope.
4. Better a late operation than none at all where death is otherwise inevitable.
5. Cholecystotomy should be the operation of election, cholecystectomy never.
6. The mortality in the hands of expert abdominal surgeons is very small, probably less than 5 per cent.
7. In doubtful cases exploratory incision ought to be much more frequent, especially as the risk is infinitely less than the probable benefit.
8. A post-mortem diagnosis is no help to the patient, and but little satisfaction to the friends.

My views may seem dogmatic to many, but they are the result of the observation of many cases, of the disasters of dawdling, and of much reflection over my own operations, and especially the daily weighing of the merits of operative measures when my own life was in the balance, and the ever present apprehension and unutterable torture led me to accept for myself the operation which has given me the health and strength which I now enjoy.

THE TENTH INTERNATIONAL CONGRESS AT BERLIN, AS I SAW IT.

Read before the Kings County Medical Association, March 10, 1891.

BY E. J. CHAPIN MINARD, M.D.,
OF BROOKLYN, N. Y.

I saw the capital city of Imperial Germany in the early morning from an elevated railroad depot, on Friedrich-Strasse. After having washed the dust from my eyes, and given twenty-five cents for so doing, I took a look at my strange surroundings.

To see this city had been a dream of childhood. The roofs decorated with statuary and symbols, the clean asphalt pavement, the peculiar architecture of the buildings, the silent way of doing the city work, and the subdued, even tread of companies of soldiers going to morning parade, keenly excited my curiosity. I was satisfied even to look over the city which held the greatest ruler and the grandest man—Virchow—the father of cellular pathology.

The unexpected greetings of long ago friends, known as college chums, and the reminiscences of college life, made me feel kindly towards the whole German nation and at home at once. The friendly reception of the Secretary, Dr. Lassar, the acceptance of credentials as delegate, the presentation of the queer little badge, the assignment to the Gynecological Section, without fuss or blunder, were very agreeable.

The building in the Ausstellungs Park was the place assigned to the Sections of the Congress. It was noisy and close, there being no corridors, and much glass and skylight. The three general sessions of the Congress were held in the Circus-ring. It reminded me of the descriptions of a Roman amphitheatre, when Rome was in her glory. It was bright and gay with light and color. Its magnificence was enhanced by the presence of army officers and surgeons, who wore imperial decorations upon their gay uniforms, which were marks of fidelity in the service of a worshiped Emperor. Others wore badges sparkling with jewels, for work done in laboratories and societies. These gay trappings seemed a fitting framework for the eight or ten thousand scientists and scholars from all parts of the globe, who had come to submit to a tribunal of the noblest criticism, the results of their truest thoughts and most patient labors. It was an event to enrich a lifetime.

To hear and see Virchow, who, crowned with the knowledge of three-quarters of a century of research, has lived to verify and rectify his own investigations, and whom his countrymen have honored, idolized and *outgrown*, but who to-day, in his waning life, is the one scientist who can measure arms with the younger giant, Koch; to touch the hand of Apostoli, and hear him defend "galvanism" as only a master can; to return the smile of recognition on the broad, good-natured face of Martin; to look with reverence approaching awe upon the faces of Koch, Pasteur, Lister, Esmarch, Tait, Billroth, Oppenheim, Sir Spencer Wells, and a host of others, with more or less unpronounceable names; to find Lusk, Parvin, Senn, Wood, Billings and many others of my countrymen in their midst; to hear ten tongues and twice as many dialects spoken, yet to understand the universal language of science, and to be an accepted member of this great body of investigators and thinkers—is an honor to be

worn with fidelity that only those who wear the motto, "*Guard the Faith*," can fully understand.

Mexico met Russia; Great Britain met Italy; Spain met Japan; Holland and Sweden met Asia and the Islands of the Sea; France, shy and sullen, met Germany, and grew cheerful under the kindly greetings; and America, with her 657 delegates, had no favors to ask, nor had she need to blush for lack of talent.

But the extreme modesty which marked the demeanor of Americans was not pleasing. Perhaps our national nervousness develops self-consciousness—or is it a lack of university training?

Our papers were fine, and some led in the departments to which they were assigned. Brooklyn had her place. Dr. French led in his specialty—the throat. His paper was *sui generis*, as you all know. Dr. Parvin's paper equalled anything in its line; and Dr. Wood's address on "Anæsthetics" was a State paper, and was assigned a place of honor—that of the closing session.

To give an idea of the subject-matter of even a few papers is impossible. The most advanced ideas were treated respectfully and discussed fairly. Apostoli was hissed a little; but as it came from the French, we all smiled and applauded louder.

The whole line of antiseptic treatment culminated in one word—"cleanliness." There were new instruments, which Americans bought to bring home and improve upon. We are ahead in the use of the drugs (the new remedies) which bear the German trademark.

While listening to the papers of these intellectual giants, one could divine that a great tidal wave in science was imminent—and that it centered upon the discovery of Koch.

Every delegate will remember so long as reason remains, the scene when Koch stepped forward to read his "Researches." His deep-set eyes, so true and steady; his gentle, yet decided bearing, said so plainly that he was giving us the "truth" as he had found it; and scientists accepted it without question. When the greetings had subsided, it was far more interesting to watch the faces of the listeners than to follow his reading with the dull ear of my American German. The lines and shadows on the faces of those listeners from the ends of civilization quivered like the needle of the milliamperemeter, when the current is near. I have heard from forum and pulpit passionate orations, which have made my countrymen famous throughout the world; but this man who stood here giving to dying humanity a respite, would have been made a god in the days of Greece.

The social resources for festivities which a gay capital city has at its command were called into play, and the delegates were wine and dined and amused to satiety. The banquet at Kroll's Garden—"the good-bye feast"—"a hotel on a pic-

nic excursion," were things undescrivable to an American. How from ten to fifteen thousand people were fed and wine without fee, and how each coterie and table mixed without mingling, is incomprehensible.

Some one has said, "To learn at the fountain head of the masters, and to love historic Germany, is only scholarly."

We have all the facilities in our great cities for scientific investigations, except, perhaps, the deplorable class to practice upon—and may that never exist!—but we work too fast and are not yet painstaking enough. Few of us so far have had the patience to work up clinical material.

But the woman's side of this tidal wave of medical science may not be ignored. The furore with which Germany has received Koch's investigations, compared with the reception of Jenner's mighty discovery, points to the growth that has taken place in this great Empire in ten decades, and is suggestive.

When the Congress was younger and smaller than it is to day, it met in Amsterdam. A woman physician of unusual ability was put upon the programme with a paper on pathological studies made in Syria. Objections were made to her and her paper; but parliamentary rules were stronger than German barbaric usages, and she read. In august executive session this Congress voted that no woman should be admitted into its ranks so long as Germans held control. The Congress grew in knowledge and in numbers, and met now in one country, now in another, till it reached London. Titled and diplomaed ladies sought admission to it, now that Germans did not control. Surely their Queen would decide in their favor! but the Empress of India said, No! American women smiled, "for are we not all princesses in America?"—and turned their attention to work, fully believing in the "survival of the fittest."

The Congress grew, till it covered the whole earth, and came to Washington. Americans surprised it and taught it to respect Western medical work. Women physicians had become so absorbed in the work of "surviving" that it was entirely forgotten. A few captured the giants from abroad, taking them to our hospitals to show them our working material.

The re-instatement of woman in medicine has not yet exceeded a half century. This re-instatement began in New York, and was re-inforced by Berlin. England and Germany have the honor of the nationality of the first two regularly diplomaed women doctors in the world. One graduated from the College of Geneva, N. Y., the other from Cleveland, O. But only in America could this have been done; and only women from the Old World, well grounded in literature and midwifery, could have laid such a foundation as to-day underlies the structure of woman's education in medicine.

The result of her work has been to increase our number from eight to thousands within the past twenty-five years; to build two medical colleges equal to the best male colleges; and to graduate doctors with as high a degree of scholarship and preparation for work as male colleges have done, with a hundred years of experience, and a thousand of culture. There are now forty-seven colleges to which women are admitted in the United States and Canada, fifteen of which have been built for her alone.

Women doctors in America had now become sure of surviving, and when at last the Congress decided to hold its tenth triennial meeting in Berlin, they were reasonably sure of being fellow-shipped. One thing an American will not brook without resenting—that is being snubbed—so great caution was observed among a few, and quietly every line sent out from the executive committee at Berlin was scanned with great care. When a male delegate was asked how he thought Americans would be received he said, "They will be snubbed, of course; the German knows he has it all his own way." The result proved otherwise. Americans were honored as much as they deserved. If there were individual heart-burns it must have been from lack of knowledge of local customs, or of the language. As for woman—without premeditated effort there were more than twenty women in these sessions. There were chemists, biologists, physiologists, botanists, dentists, and among these were fourteen women physicians, one being an honored delegate from the New York State Medical Association, and admitted as such.

Germany is now the only civilized Government where women are not allowed to practice medicine as physicians. Women here obtain their diplomas, usually, from Zürich, and are admitted to all the rights of midwives (which are many), but are not allowed to use the forceps, write a death certificate, or one of vaccination.

The admission of women delegates to this Congress in the face of the decisions of former sessions, was hailed with enthusiasm by the women of Berlin. "How did you do it? You do more in America in twenty years than we do here in a hundred," was the greeting. "Meet us in Rome in '93, where coeducation has existed since Agnes of *Coronina* captivated with her mathematics and her beauty," was the parting word.

Right upon the heels of this innovation comes the Johns Hopkins College, where post graduate medical education of the highest order is assured woman; but she will have to do it herself. Then the Brooklyn Board of Health, through its successful health officer, has appointed from its civil service list, two of our number upon its sanitary work. Surely 1890 has been propitious!

There will never be more women in medicine than will be needed. The great advance made

in gynecology owes more to her entrance into medicine than will ever be told. None of you would be willing to return to the time of the untrained nurse, with her snuffbox, catnip tea and gin.

The first intelligent nurse at Bellevue was a medical woman student, who entered as a nurse to obtain the knowledge otherwise inaccessible to her. The cruel neglect and want of delicacy found in this institution, where help was taken from the workhouse paupers, suggested the necessity for reforms, which have culminated in the enlightened system for the education and training of nurses, which is one of the blessings of the age.

We might say that the work in this line in Germany is done by the Lutheran Sisterhood, who do through religious duty what our trained nurses do for the large remunerations which we pay them. And the success of surgery is due to the cleanliness and care given by this class, whether from duty or fee.

The woman physician stands to-day, side by side, not as a rival, but as a helper, to her brothers in the profession. Then open wide every avenue of learning to her! Only the best will satisfy her now. It is such a pity that so much vital force should be expended in hewing out new roads for learning. I returned from that great gathering at Berlin, fully believing that only upon the foundation of a university training, with ancient and modern languages, may the Western student hope to cope in knowledge with the scholars of the Old World, in scientific and medical researches in the future, without regard to sex.

THE CHAIR OF SURGERY IN RUSH MEDICAL COLLEGE.

Introductory Address delivered before the Class, April 11, 1891.

BY N. SENN, M.D., Ph.D.,
OF CHICAGO.

PROFESSOR OF SURGERY IN RUSH MEDICAL COLLEGE, ATTENDING
SURGEON PSEYTERIAN HOSPITAL.

Within the short space of four years ruthless death has twice vacated the Chair of Surgery in this college. On both of these sad occasions the faculty, students and alumnae felt that an irreparable loss had been sustained. To fill the Chair of Surgery made vacant by the death of men who have distinguished themselves in their profession by honest scientific work, and have endeared themselves to their colleagues and students as exemplary and masterly teachers is by no means an easy task, hence the anxious inquiries from all sides and everywhere: Who shall be the successor? Who shall continue the work left unfinished? Rush Medical College has always been justly proud of its Chair of Surgery. Its founder was a surgeon of world-wide repute, and there can be no doubt that from its very beginning the

men who have occupied this chair have been the great magnet which has attracted an increasing number of students from year to year. I am not saying too much, if I make the claim, that the Chair of Surgery in this school, with the immense clinics attached to it, stand to-day, in the estimation of the profession and the people, second to none in this country.

The faculty of this college has entrusted me with the work commenced by the immortal Brainard, the work so faithfully and ably conducted by the genial and scholarly Gunn, the work brought up to the present immense proportions and importance through the heroic labors of Parkes, whose untimely death is now the cause of universal sorrow. To be chosen as successor of such men should satisfy the goal of ambition of any man. To be the fourth in a genealogy of a group of such surgeons in the oldest and most famous institution for medical education in the great Northwest is a mark of distinction which I fully appreciate, and which I shall make a faithful endeavor to merit by earnest devotion to the duties imposed, and by contributing my humble share towards making this great city what it surely will be in less than twenty-five years—the most important medical centre in the United States.

Brainard, the founder of this institution and the first occupant of the Chair of Surgery, was a great surgeon, a gifted teacher, and an original investigator. His giant intellect was not content in acquiring, practicing and teaching what was known at his time, but sought new fields for exploration, and the knowledge thus gained was freely infused into his students. Brainard's work in the field of experimental surgery brought him an international fame, and his name will be quoted as long as books on surgery will be printed. His work has not only left numerous permanent impressions in surgical literature, but it created a stimulus which took possession of his students and the progressive surgeons throughout the civilized world, leading them away from the old well-beaten paths into new, unexplored territories awaiting the advance column of original explorers. It is difficult to estimate the importance and magnitude of his work in this direction, but hundreds of his students scattered all over this country still remain living witnesses of his zeal, industry and ability as a surgeon, teacher and scientist. They are to be envied for having received their first surgical knowledge from one of the greatest, and certainly from the most original surgeon that America has yet produced.

Professor Gunn assumed a responsible position when he succeeded Brainard. That the faculty acted wisely in securing his services has been abundantly shown by his marvellous success as a teacher and the ever-increasing prosperity of the college under his watchful eye and judicious guidance. Gunn loved this institution dearly

and jealously watched its interests. He was more than a friend of every one of its graduates. He was not only familiar with the current surgical literature but also added his share of original scientific work. His love for original research seemed to increase as he grew older. His contributions to our knowledge of the mechanism of dislocations were the outcome of patient experimental work and philosophical reasoning, and mark a decided advance in this important department of surgery. His last paper on this subject is a masterly product and should be in the hands of every student, as it is a genuine *multum in parvo*, containing all essential facts pertaining to this difficult chapter in surgery in a nutshell. Although the faculty, the students, and every graduate felt keenly the great loss sustained by the death of Professor Gunn the action of the faculty was plain in the selection of his successor. Professor Gunn made ample provision to meet such an emergency during the whole time he was connected with the college. He selected and trained his own successor. The late Professor Parkes was well aware of this fact and made the best of his excellent opportunities. For fifteen years he taught anatomy with an enthusiasm and ability unsurpassed in this or any other country. Under his tuition thousands of students learned to regard the study of anatomy as a pleasant and profitable pastime instead of an uninteresting drudgery, as is so often the case when taught by one less skilled and conversant with his subject; and left the college perfectly familiar with the essential basis of a thorough knowledge of surgery. During all this time Parkes was the right-hand of his teacher of surgery, master and student assisting and stimulating each other in their respective work. How well he had prepared himself for his life work is shown by his short, but brilliant career as professor of surgery. His accurate knowledge of anatomy combined with his familiarity with modern surgery made him a brilliant and successful operator. His skill as a surgeon was soon recognized and was eagerly sought for far and near. His success as a surgeon has made this clinic what it is to-day, one of the largest and most profitable on the continent. As a teacher few equalled, none surpassed him. Like his predecessors, Parkes was not only a distinguished surgeon and great teacher, but also an enthusiastic, faithful worker in the field of original research. His valuable experimental investigations on the surgical treatment of penetrating gunshot wounds of the abdomen have laid the foundation for the rational treatment of these injuries for all time to come. His experimental and clinical contributions in this department of surgery have erected a monument to his memory more enduring than marble and more precious than bronze.

His untimely death is surrounded by halos of

peculiarly sad and distressing circumstances. The cold hand of death touched him in the prime of life. The final message reached him at a time when he was just beginning to reap a well-earned abundant harvest, and when in full view of a professional career unparalleled in usefulness and prosperity. His pen dropped from his busy hand after he had nearly completed what promised to be a most interesting and valuable work on abdominal surgery. His work as a teacher came to a sudden end near the close of the session and just before the Commencement exercises at which one of the largest and best classes left the portals of Rush Medical College in deep mourning over the loss of their favorite and most esteemed teacher. His restless soul departed from this world in the absence of his family, and the last moments of his life were not cheered by words of love and parting kisses from those nearest and dearest to him.

The life of Professor Parkes furnishes a striking illustration of what can be accomplished in a little more than half a life-time by well-directed, hard study; close application to professional duties and unremitting work in search of new facts. In appearing before you as his successor, I am free to confess that it is with a keen appreciation of my many shortcomings. In resuming the work as a teacher of surgery in this institution, I am encouraged by the prospects that I shall, in the near future, be joined in my work by an associate, a surgeon of more than National reputation. If the combined work of both of us shall accomplish for the college and students what was done by Brainard, Gunn and Parkes my ambition and expectation will have been realized. I have left a lucrative practice, a pleasant home, a large circle of professional and social relations, a prospering, wide-awake State, and a beautiful city, and have come here to devote the balance of my life to the interests and welfare of this college and its students. I am fully conscious of the fact that I am coming at a time when the methods of teaching are undergoing a radical change. In the future recitations will largely take the place of didactic lectures. Text-books will be written with this special end in view. This comparatively new method of teaching surgery will be made a prominent feature during the next and all subsequent sessions. This new departure will necessarily change somewhat the plan and scope of clinical teaching. It is my intention to carefully arrange and classify the available clinical material in my department which will enable me to combine didactic with clinical instruction. This change will result in a reduction of the number of cases brought before the class, but will prevent unnecessary repetition, and thus save more time for the study and examination of pathological lesions, which will be a sufficient inducement for the students to attend every clinic,

take full notes of what they see and hear and to remain from beginning to end. May God grant that the work entrusted to me and my absent colleague may be worthy of our predecessors, and equally efficient in relieving suffering humanity, in advancing the interests and increasing the sphere of usefulness of this college, and finally, in giving to its students a thorough knowledge of the science and art of surgery.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

RESORCIN IN RODENT ULCER.—BOCK (*Monats. f. prakt. Derm.*, No. 4, February, 1891) has obtained unusually good results by treating rodent ulcer with Unna's resorcin plaster, and selects two cases as examples. In one there was an ulcer an inch and a half square, which had lasted ten years. The surface was everywhere open, moist, and suppurating. The resorcin plaster was applied and changed daily. After a few days considerable improvement was observed, and after two months the whole ulcerating surface was healed over, only here and there being a minute oozing point. In the second case the ulcer had lasted for six months, and was about a centimetre square, with raised infiltrated borders. Excision was declined (the patient was about 82 years old), and resorcin plaster was applied. In seven weeks, when the patient was accidentally met, the ulcer was found to have been long healed, and treatment given up. A shallow, slightly reddened cicatrix remained. Unna (*ibid.*) reports a similar case.

HYDROCELE TREATED BY INJECTIONS OF CHLORAL HYDRATE.—DR. MARC SÉE has made use of hydrate of chloral in the treatment of two hundred cases of hydrocele. According to him chloral has the property of coagulating the blood and serous fluids, and thus obtains a limited range of usefulness in surgery. It may be made to take the place of the iodine solution very generally injected into hydroceles. He has used chloral in this way repeatedly and without any untoward results. For this purpose he has employed a ten per cent. solution of the drug, which he has injected, either slowly or all at once, into the sac. He has used one ounce to each injection. Two or three days afterwards a large effusion of fluid occurs, which is soon entirely reabsorbed. When the walls of the hydrocele are very much thickened, neither the injections of chloral nor any other substance are of much avail, and the use of the knife becomes the best treatment. From an abstract in the *Lancet*, which has supplied us with the above data, it further appears that some success has followed the use

of chloral injections in the neighborhood of varicose veins, as they cause a gradual coagulation of the contained blood, and a contraction of the veins themselves.

NOVEL TREATMENT OF INGROWN TOENAIL.—DR. PUERCKHAUER recommends a novel, simple, and at the same time competent treatment for ingrown toenail: A 40 per cent. solution of potassa is applied warm to the portion of the nail to be removed. After a few seconds the uppermost layer of the nail will be so soft that it can be scraped off with a piece of sharp-edged glass; the next layer is then moistened with the same solution and scraped off; this must be repeated until the remaining portion is as thin as a sheet of paper, when it is seized with a pinicette and lifted from the underlying soft parts and severed from the other half. The operation does not require more than half an hour's time, is painless and bloodless, while the patient is delivered from his suffering without being disabled even for an hour.—*The Pittsburgh Medical Review*.

A SIMPLE TREATMENT OF CORNEAL ULCERS.—M. VALUDE, one of the ophthalmic surgeons of the Quinze-Vingts Eye Hospital, communicated to the Académie de Médecine on February 10, a new method of treating those troublesome cases—ulcers of the cornea—so simple in its application, and, according to its inventor, so successful in its results that it cannot fail to be generally adopted. Hitherto corneal ulcers complicated with hypopion have been treated by puncture either by the knife or thermo-cautery, this operation having frequently to be repeated, and too often leaving behind it opacities, if not actual staphyloma. For this unsatisfactory method M. Valude substitutes a simple dressing, consisting of a pad of salol gauze, which, with a moistened gauze bandage, effectually seals the eye and maintains a certain amount of compression. Before being applied the eye is carefully disinfected. The dressing is not renewed until after three or four days have elapsed, when the ulcer is found to be already healing, and the collection of pus in the anterior chamber much diminished. M. Valude states that the cornea tends to regain its original transparency without any opacities. In corneal ulcers uncomplicated by hypopion M. Valude, relying on his experience of fifteen successful cases, asserts that this new treatment is *the treatment par excellence*.

COCAINE INCOMPATIBLES.—Cocaine is used in manifold mixtures, and often brought in contact with substances with which it is entirely incompatible. A. Brunner states that it is frequently prescribed with silver nitrate in ointments, when, as is probably not known to the prescriber, decomposition of the hydrochloride ensues with

formation of insoluble chloride of silver, and a corresponding change in the cocaine. E. SCHELL, in the *Eis-lothr Journ. d. Pharm.*, reports that if calomel and cocaine hydrochlorate are rubbed together chemical reaction sets in. Mercuric oxide, too, if dispensed in form of ointment containing cocaine hydrochlorate changes, so that the ointment, instead of producing an anæsthetic effect upon the eyes, produces an exceedingly irritating one. This is due to the formation of oxy-chloride of mercury, the quantity of which depends on the amount of cocaine used, the intimacy of its mixture with the oxide, and the age of the ointment.—*Apoth. Ztg.*

TREATMENT OF DIPHTHERIA.—DR. GUNTZ, of Dresden, has had great success in the treatment of diphtheria with bichromate of potash in water containing carbonic acid, which he has found by numerous experiments on animals, as well as in the course of extensive clinical observations, to be entirely harmless. For an adult 600 grams (about a pint) are ordered per diem, in which are dissolved 3 centigrams (about $\frac{1}{2}$ gr.) of potassium bichromate. The whole quantity is directed to be taken in about half a dozen doses, regarding which it is important to observe that they must not be taken on an empty stomach; a little milk or gruel should therefore be swallowed before each dose. Children, of course, take smaller quantities, according to age. They can be given the medicine in a tumbler mixed with some fruit syrup, and they do not generally object to it. At the commencement of the disease Dr. Guntz washes the mouth out with a 1 per cent. solution of permanganate of potash containing 0.1 per cent. of thymol, or with a corrosive sublimate solution of the strength of 1 in 3,000, taking care, in the latter case, that none is swallowed, and that the mouth is well rinsed with water afterwards. In the case of young children the pharynx must be brushed out with the solution. Sometimes iodoform is employed, being applied on the tip of the finger to the affected spots. Dr. Guntz specially remarks that potassium bichromate, though harmless in the way described, is by no means so when in pills, powders, or in solution in non carbonated water.—*The Lancet*.

SIMPLE TREATMENT FOR CHOLERA.—DR. HARKIN has proved the following method by actual experience: Blistering, collodion or any epispaste, is applied behind each ear and along the course of the pneumogastric nerve as far as the angle of the lower jaw. The object is to cause inhibition of the sympathetic in the abdomen by stimulating the vagus. The result is at once apparent; the purging and other characteristic symptoms cease, and the patients fall asleep long before vesication takes place, and awake cured, or at least tided over the dangerous pe-

riod. Counter-irritation with mustard or spice leaves might be useful in a similar way in the treatment of cholera infantum.—*India Med. Gaz.*

Obstetrics.

CAFFEIN IN PUERPERAL HÆMORRHAGE.—MISRACHI (*Centralblatt für Gynæcologie*) recommends the hypodermic injection of caffein in puerperal hæmorrhage. He says that it produces quicker results than ergot, and it is at the same time a powerful stimulant. He begins with a dose of 20 centigrams, which is repeated until a desirable reaction is established. The insolubility of caffein may be met by mixing it with benzoate of sodium, the two substances readily dissolving in hot water.

Medicine.

SALOL IN THE GASTRO-INTESTINAL DISEASES OF CHILDREN.—Salol, administered by the mouth, does not undergo any change until it reaches the intestine, where it is acted upon by pancreatic secretion and decomposed into carboic acid and salicylic acid. Its use as an antiseptic is modified by the action of the pancreatic secretion, and it has been employed for different diseases of the stomach and intestines in children. BARR has reported thirty-five cases of gastro-intestinal inflammation in which salol was administered. When the symptoms were those of acute gastro-enteritis, with vomiting of the food and copious stools of disagreeable odor, the use of salol, either pure or combined with an inert powder, was found efficacious. If the stools were lumpy and the vomited material mixed with bile, calomel alone gave better results than when combined with salol. When the stools are serious, in dysentery and in colic, salol should be mixed with a little opium to allay the tenesmus, or it may be combined with codeine or narceine. In the first period of acute gastro-enteritis, and in the chronic forms of entero-colitis, salol acts most efficiently. Barr gave salol in doses of three centigrams to children under six months of age, and from three to nine centigrams to those from sixteen to eighteen months, from nine to twelve centigrams to those who have reached two years. Salol is a remedy which is easily administered, and it is without toxic action. It is to be ranked among the approved intestinal antiseptics, which also include naphthol naphthaline, sulphide of carbon, and Belloe's charcoal. The author used it in the summer of 1889, combined with oleo-saccharate of canella, in four cases of infantile cholera, and with very encouraging results. Lowenthal has used salol to prevent the proliferation of the bacillus of cholera and the formation of toxine, which is produced by contact of the bacillus with the pancreatic secretion, in the midst of peptonized albuminous matter. In his experiments he used tubes containing an infected paste, introducing salol into some of the tubes, and leaving it out of

others. Some of the latter was introduced into mice. Some of the mice died and the others became very sick. Other mice were inoculated with material which contained salol. No effect was produced because the toxic secretion of the bacilli could not act upon the pancreatic contained in the material of inoculation, while the salol was decomposed by the pancreatine into carboic and salicylic acid.—*Archives of Pediatrics.*

Surgery.

THE OPERATIVE TREATMENT OF PERITYPHLITIS.—PROFESSOR SONNENBERG, of Berlin, closes an interesting article which is quoted by the *International Journal of Surgery* from the *Berliner Klinische Wochenschrift* as follows:

1. We must strive by all possible means to differentiate clinically between the simple inflammatory and the purulent forms of perityphlitis. The serofibrinous exudations, which usually result from faecal obstruction in the cæcum and colon, are generally reabsorbed in healthy persons, even if they are extensive, and do not require surgical interference. It is only in patients suffering from tuberculosis or acute or chronic intestinal diseases that these exudations may become purulent in consequence of perforation, and they then require very simple surgical procedures, as general peritonitis is extremely rare in these cases.

2. Purulent exudations, originating in the vermiform appendix, cannot be absorbed. In these cases the disease has been preceded, at greater or less intervals, by attacks of colicky pains in the ileo-cæcal region. The exudation, which is circumscribed and small at the beginning, is the result of gangrene and perforation of the appendix, and is of purulent or sero-purulent character. The experienced and careful physician will usually be able to recognize these forms of purulent perityphlitis with certainty.

3. The more superficial a purulent perityphlitic exudation is situated, the earlier an operation is indicated, that is, within the first few days after the occurrence of the initial symptoms. A simple incision is sufficient in most cases, owing to the presence of adhesions.

4. If, however, the exudation is small, indistinct and deeply-situated, we should perform the operation in two sittings, as early as possible after the beginning of the disease, especially if the resistance and dulness disappear on account of the increasing meteorism; for experience teaches that by proceeding in this manner we are able to discover again the purulent deposits, and lay them open without injury to the peritoneum and risk to the patient.

By this treatment, the operation is deprived of its dangers, and even in doubtful cases this procedure is a rational one. The surgical methods described above will enable us to avoid the un-

certain results of a spontaneous cure, the dangerous recurrences, and the occurrence of fatal general peritonitis in apparently mild cases.

Pathology.

CHOLERA NOSTRAS.—IN a paper read before the Société Médicale des Hôpitaux on February 6th, Drs. GILBERT and GIRODE describe the researches they have made in regard to some cases of cholera nostras. The chief interest lies in the bacteriological work. The stools in some of the cases yielded almost pure cultivations of Escherich's bacillus. Cultivations were also made from the faces on different media, and numerous colonies were also obtained from the cerebrospinal fluid, but not so many were yielded by the blood of the liver and spleen. The fluid squeezed from the lungs produced, in addition to the pathogenic bacteria, organisms morphologically similar to the pneumococcus. Although certain organic disturbances, such as high temperature, favored the development of the bacillus, as shown by the fact that when such occurred pure cultivations could be easily obtained from the stools, the authors would not imply the reverse order of things—that the high temperature, etc., was caused by rapid multiplication of the organism; they considered that cholera nostras is not always a symptom of a local lesion of the intestine, and that the germs were able to pass through the walls of the intestine, invading the body, and so bringing about a new morbid type—the infectious form of the disease. They were also of opinion that the bacillus of Escherich was not the only choleraic microbe in this climate. Finkler and Prior have also found a bacillus in the alvine evacuations of patients suffering from cholera nostras, very similar to the cholera bacillus of Koch. There are two suppositions which may be considered as regards the connexion of Escherich's bacillus with cholera nostras. In one the microbe may be concluded to be harmless before it enters the body, and may there develop its special pathogenic properties. The second idea supposes that the germs are widely distributed, and acquire their poisoning properties before entering the body, most probably doing so by means of drinking water. In the guinea-pig, if a pure culture of this bacillus be injected, it is followed by all the symptoms of a typical attack of cholera nostras.—*Lancet*.

CAN SIMPLE VAGINITIS BE DISTINGUISHED FROM THAT OF GONORRHOEAL ORIGIN?—If the confident assertions of various writers in the medical journals are to be believed, it is a matter attended with little or no difficulty to distinguish between a case of simple vaginitis and one of specific origin. Within the month we read the following from a well-known professor of gynecology: "It is very difficult to distinguish be-

tween specific and non-specific vaginitis, unless the microscope is used to demonstrate the presence or absence of the specific microorganisms characteristic of the disease."

The following, which we copy from the *Medical and Surgical Reporter*, seems to us to express the truth of the matter: "When in adults, the discharge has appeared suddenly, is purulent in character, and in its early stages has been associated with scalding pain on micturition, a hot and tender vagina with bright red points covering the mucous membrane, and with a red, velvety or granular os uteri, the probabilities are altogether in favor of gonorrhœa. And yet it is doubtful whether many men could be found willing to take the witness stand and declare positively, from the symptoms and appearances we have described, that the disease is gonorrhœa. The difficulty becomes still greater when the patient is not an adult but a child. Fortunately the cases of gonorrhœa in little girls are much less frequent in this country than they appear to be on the continent of Europe.

The discovery of the so called "gonococcus" by Neisser was hailed by many with enthusiasm. But it was scarcely discovered before assertions were made that it could be found in non-specific discharges, and that it could not be distinguished under the microscope from other bacteria, particularly diplococci. The latter conclusion is the one to which Vibert and Bordas have come. These writers have investigated, from a medico-legal point of view, the discharge present in the vulvitis of little girls, and declare that microscopic examination of such discharge never enables an expert to affirm that a particular vulvitis is or is not gonorrhœal. They find the gonococcus practically indistinguishable from the diplococcus—both bacteria, they say, have the same form and dimensions, the same arrangement in masses and heaps, and not in chains, and they stain alike and are alike deprived of their stain by alcohol.

It not infrequently happens that men are accused of having committed rape upon little girls, and sometimes vulvitis is adduced as one of the evidences of the violation. A vulvitis, however, has been found in a violated child although the person guilty of the rape was free from any evidences of urethral disease. It would seem to be impossible, therefore, in the present state of our knowledge of the bacteriology of gonorrhœa, to base upon it a diagnosis sufficiently positive to warrant a judgment by the court in a criminal suit. No doubt this difficulty will be overcome by-and-by, and perhaps by cultivation the gonococcus can be distinguished from the diplococcus. But just now the conclusion seems to be that our methods of detecting the gonococcus are not precise enough for medico-legal purposes.—Editorial, *Massachusetts Medical Journal*.

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THE VALUE OF KOCH'S TUBERCULIN.

Never has a medical discovery led within so short a time to such an amount of observations, as have been recorded since KOCH first announced his discovery of a remedy against tuberculosis. Now that five months have elapsed since KOCH's first paper and many observers can speak of three months experience, a survey of the applicability of "tuberculin" seems proper.

1. *Its Diagnostic Value.*—Koch stated originally that no effects had been observed by him in healthy people from doses under about 1 centigram. He therefore considered a reaction of the system to a smaller dose, by fever, lassitude, diffuse pains, etc., absolutely characteristic of tuberculosis. The subsequent experience of others has shown that this rule is not without exceptions, hence it is at present only safe to say that "a systemic reaction on injection of less than 1 cg. of tuberculin in an adult is a very probable but not absolutely decisive indication of tuberculosis."

Numerous observers have injected the substance for diagnostic or experimental purposes in non-tubercular patients or healthy subjects. No very large statistics are as yet reported, but while some never obtained any reaction, others found a variable proportion of non-tubercular people reacting to doses under one centigram. PEIPER tested twenty-two non-tubercular patients under careful observation. Of nineteen receiving 2 mg., four reacted; of twenty-one subjects eight responded to 5 mg., while of sixteen who were tested with 10 mg., twelve suffered with fever. MICULICZ reports that of ten healthy young men,

five reacted to 0.01 lymph, and five did not. Amongst twenty-five surgical, but non-tubercular patients, twenty-two showed no result on injecting quantities varying from 1 to 15 mg., while in three reaction was obtained. Many reporters state that in numerous instances reaction occurred in people who at the time were considered free from tuberculosis, but in whom the tuberculin made manifest a latent tubercular focus, as the subsequent history showed. Of great interest are the researches of Schreiber on forty new born children, who beginning with the utmost caution, found that he could increase up to 50 mg. without ever getting any reaction whatever.

While it has thus been learned that occasionally a non-tubercular human organism may respond by a general disturbance to a dose less than the average usually requisite, all observers agree that a local reaction indicates infallibly a tubercular lesion, as it has never been observed under other conditions. The local reaction shows itself by increased redness and swelling on the diseased skin or visible mucous surfaces, and by pain and tenderness in diseased bones and joints, often with increased secretion if fistulæ exist, and redness and swelling of the fistulous tract. The reaction of the internal organs is sometimes, but not always, indicated by pain, while in the lungs an increase in the area of dulness and an augmentation of rhonchi often indicate the local disturbance induced by tuberculin. The local reaction is not invariably accompanied by fever, especially if it be slight. It is generally stated that it precedes the fever in its first beginning, the febrile disturbance being evidently dependent upon it. In leprosy GOLDSCHMIDT and BABES and KALENDERO have observed a very gradual and rather persistent, though temporary, change in the affected parts (viz., increased swelling and tenderness), which might be termed a delayed and protracted local reaction quite different from that in tubercular lesions.

While the typical febrile reaction begins generally between the fifth and twelfth hour after the injection, reaching its acme in about two hours, and lasts altogether from six to twelve hours if at all marked, various deviations from this type have been observed. Occasionally the whole febrile paroxysm is postponed some twenty-four hours. A few times a slight second rise of temperature has been observed on the second day. A

continuous febrile disturbance succeeding the acute rise of temperature has been shown by SONNENBURG to be due to the retention of increased secretion in surgical patients, and was relieved by him by free drainage. It indicated in his cases that the lesions were not merely tubercular, but due to mixed infection. Since this is the case also in advanced phthisis a pyogenic after-effect can be accounted for by retention of pus in the pulmonary as well as in the surgical cases. MIKULICZ, however, a competent surgeon, as well as others, have seen lasting febrile disturbance following the use of tuberculin, which could not be attributed to retention of secretions. It is generally admitted that in the latter instances tuberculin is of doubtful service, sometimes positively harmful.

It cannot be predicted from the weight or the condition of the patient, or the extent of the tuberculosis, how intense the reaction to a given dose of tuberculin will be. It can only be said that any increase of dose beyond the quantity necessary to produce a febrile reaction will render the reaction more intense.

The diagnostic value of the substance depends of course upon the certainty with which the tubercular organism will respond to it. It seems that a marked febrile disturbance can be avoided by beginning with small doses and increasing them cautiously. Some of the instances in which manifestly tubercular patients did not react by fever were evidently due to this mode of procedure. The Berlin observers, who have perhaps the largest experience (especially GUTTMANN and EHRLICH), have pointed out that if it is desired to get a reaction for diagnostic purposes 1 mg. should be given to test the patient's susceptibility. If no reaction follows, 5 mg. should be injected after waiting four or five days, and if still doubtful, 10 mg. after another lapse of five days. If these procedures yield no reaction, the overwhelming probability is that the patient is free from tuberculosis. It must not be forgotten, however, that such rapid increase in the dose is justifiable only when it is very important to arrive at a diagnosis and other means of differentiation fail. Yet amongst the thousands of cases now on record there have been a few tuberculous patients who did not respond at all. But since these were almost invariably advanced lesions, the diagnostic value of tuberculin in de-

tecting the earliest localization of tuberculosis must be considered as very great, although not infallible.

IS INSANITY A CRIME?

There is an evident disposition in many quarters at the present time to assimilate the law of insanity to the criminal law. As is well known, for some years the State of Illinois has made trial by jury an essential prerequisite to admission to the asylums for the insane, and a similar provision is contained in a bill for the codification of the New York lunacy laws, recently introduced into the legislature of that State. We cannot but think legislation of this sort most unfortunate in every aspect in which it can be regarded. It is detrimental to the best interests of the insane; it is a needless affliction to their friends; it is an insult to the medical profession; it is a useless tax on the community, and there is no reason to suppose that it affords any protection against improper commitments that could not be secured in a more humane, expeditious and economical way.

The interests of an insane person require that he should be placed, as speedily as possible, and in such a manner as will be least likely to aggravate his symptoms, under the influences best calculated to promote his recovery. In a large proportion of cases—not all, by any means—this implies a restriction of the patient's liberty. In such cases, admission to a hospital specially organized and conducted for their treatment, may be the most valuable of privileges for its beneficiaries—none the less so for the fact that their mental condition prevents them, for the time being, from appreciating their needs. The questions involved are strictly medical, as much so as the diagnosis and treatment of a case of small-pox, or yellow fever. The law, in some cases, requires that persons suffering from these diseases should be restrained of their liberty and treated in special hospitals, but we do not remember ever to have seen it proposed that they should have the benefit of a jury trial, nor do we think that there is likely to be a very loud call for it on the part of those members of the legal profession who are so fearful that some one may be deprived of liberty without due process of law. In the one case as in the other, everything that throws needless delays or obstacles in the way of

the prompt application of proper treatment is a wrong to the patient. That such is the natural result of a jury trial, no one will be likely to question. The publicity that it involves makes the relatives of patients reluctant to take the necessary steps, the proceedings themselves involve delay, and there is always the possibility that the incompetence of jurymen to decide difficult questions of diagnosis may result in the failure of the patient to receive the treatment that is required for the best interests of all concerned. The very circumstances of being taken into court and put on trial, like a criminal, is calculated to exert an unfavorable influence on the minds of many of the insane, endangering their prospects of recovery.

The natural desire of any right-feeling person who has a friend or relative suffering from mental derangement is to keep everything concerning it as private as possible. To require the friends of the insane to do violence to all their best feelings in such a case—to make the extravagances, the follies, the indecencies of their dear ones a spectacle to the loafers of a court-room—is a hardship which nothing but the most imperious necessity can justify, and if useless, can only be characterized as an abominable cruelty.

Considered with reference to its bearing on the medical profession, legislation of this sort can only mean one of two things; either that physicians are less competent in their own business than the average jurymen, or that they are more likely to be swayed by improper motives in cases of this kind. We deny that reason or experience shows either to be the fact, and we have no doubt that, on this point, at least, our readers will agree with us that such a law is an unwarranted imputation on the intelligence and the integrity of an honorable body of men.

Legal proceedings of all sorts are known to be a rather expensive luxury, and one for which some one has to pay. The amount that has been expended in trials for insanity in Illinois would, if devoted to increasing or improving the accommodations for the insane, have made no contemptible addition to the funds for those purposes. But this is by no means the total cost of such legislation. The public must pay for the maintenance of those who, for want of timely treatment, become incurably insane, and for the damage that they may do while at large.

Probably no one would maintain that a jury trial is a benefit to those who are actually insane, or that it is of material benefit to the public in general. The ground on which it is advocated is the alleged danger that sane persons may be confined in hospitals for the insane, and that a procedure like that in criminal cases is a security against such a misfortune. Two questions are raised here, as to the reality and extent of the danger, and of the value of the protection.

As to the former point, it may be admitted at once that physicians are not infallible, and that, now and then, a person is improperly committed to a hospital for the insane. In the great majority of such cases, no serious hardship is inflicted. Some persons are temporarily crazy from drink; some are idiots and epileptics, in need of care, but not insane in the ordinary acceptance of the term; a few are delirious or stupid from fever or uræmia. In a very large proportion of cases, they are admitted with their own consent, as an alternative to confinement in a penal institution, either with or without criminal prosecution. Not a few of them have had the benefit of a trial by jury, and been improperly acquitted on the ground of insanity. The number of persons who, without having conducted themselves in such a manner as to throw reasonable doubt on their mental soundness, have been confined in institutions for the insane from improper motives is, we believe, extremely small. Compared with the numbers who are unjustly convicted of crime by juries, it would be ridiculously small. There is probably, for the average man, at least a hundred times the probability that he will be deprived of his liberty by the verdict of a jury, in a malicious criminal prosecution, than by physicians on a groundless charge of insanity, and the consequences in the former case are much the more serious.

But, taking the danger for what it amounts to, how much protection would a jury trial afford? In all cases presenting any difficulty the jurors would, in most cases, be entirely incompetent to judge of the value of the evidence. They must accept or reject the opinions of the physicians, and in so doing, they must be governed, not by an independent judgment of the facts, but by their impressions as to the competence and honesty of the witnesses. If they accepted the medical testimony, they would be useless; if they rejected it they would probably go wrong. Any one who

thinks that it would be impossible for any one to be unjustly decided insane by a jury, or even that such an event would be improbable if interested parties should go to work and get up a case, must have a faith in the jury system that is very little affected by observation of its practical workings.

We protest, then, against all such legislation, as detrimental to the interests of all concerned. More particularly we protest against it as calculated to foster the feeling, already too prevalent, that insanity is a crime instead of a symptom of disease—a disgrace instead of a most pitiable misfortune. In the name alike of common sense and of humanity, we urge that an end be put to such foolish cruelty.

WHO OWNS THE PRESCRIPTION?

The *Philadelphia Medical and Surgical Reporter*, quoting from the *American Journal of Pharmacy*, embodies a legal opinion, the gist of the argument of which appears to be that the apothecary needs the filled prescription as evidence for his own or other protection and therefore retains the paper on the ground of convenience, "to warrant himself if a question shall arise as to correctness of conduct." "Evidently the only dispute can exist in a case in which the physician and patient have parted with the possession of the paper and it has lawfully come into the hands of the apothecary at the instance of the patient." The delivery to the apothecary is not virtually a transfer, nor is a new prescription requisite every time the order is sought to be filled. Says Mr. McMURTRIE, the utterer of the opinion, "there ought to be no doubt that the apothecary may, if he sees fit and is foolish enough to run the risk, put the paper in the fire. There can be no duty to produce it for inspection or to give copies, while it would be silly to refuse to do so, when reasonably demanded."

Notwithstanding the *ad captandum* vein, there is much logic in the opinion, albeit the profession too may have certain interests akin to those involved by the copyright. These self-same prescriptions are figments of the brain, made by this custom of repeating a menace to the future emoluments of the physician, but this is equally true of every other vocation in all civilized countries and cannot be made the subject of special legislation. To ourselves it has always seemed that the

patient did own the written order upon the apothecary—the former rather than the latter—and last of all the physician, who, being exempt from responsibility for the unauthorized use of what was once his commodity, is not required to give any warning in order to purge himself of the charge of being a *particeps criminis*. The risk as against public policy is mainly with the apothecary, especially in the matter of opiates, which may or may not call forth a coroner's jury censure. But this censure is only an inoperative substitute for a penalty, which at the utmost only entails a certain amount of notoriety, conjoined with a probable loss of business. The store-keeper who has sold a murderous pistol may have his regrets, but readily consoles himself with the reflection that he might as well have his price as any of his rivals. Criminal intent being absent, the law cannot well take cognizance of results. Besides the spirit of trade has so ordained, and every individual is interested in the principle of discretion in one way or another.

The whole question has been discussed in many medical societies from one session to another; argument has been pitted against intuition and simplicity has all but been evolved out of the complexities, and to what profit? The counter of the apothecary has settled it all with the package delivered without numerous questions. There may be nice points deserving of notice, but they can only be presented as lawyers' quibbles, not as Supreme Court decisions. We scarcely think that the apothecary deliberately intends to defraud his patron, the physician, of a fee, for he knows that the patient does not intend to return to him for medical advice and that he probably only gratifies a whim or mood. There are grievances to be sure, and notwithstanding the alleged blood-relationship between law and justice, they very frequently do not speak as they pass by.

THE PROPOSED PAN-AMERICAN MEDICAL CONGRESS.

We are advised that a resolution will be brought forward at the coming meeting of the Association recommending that appropriate action be taken to assemble in this country an INTERNATIONAL AMERICAN MEDICAL CONGRESS. Our people are probably aware that among the Latin-American schools on this Continent a standard of medical

education obtains which insures a high standard of attainment on the part of their alumni.

An American Medical Congress would serve to bring into closer, and as we believe mutually beneficial relations with North American institutions, the valuable laboratories, hospitals and other medical institutions of Havana, Rio Janeiro and Brazil. These Governments are fast becoming our Continental allies, in all commercial relations, and there is abundant reason for us to cultivate the utmost of friendly relations with the medical profession in each of the Governments on the Continent. We favor the holding of such a Congress, and hope that favorable consideration will be given to such resolution when it shall be presented.

EDITORIAL NOTES.

DON'T FAIL TO SEND DELEGATES to the meeting at Washington. Every local medical society in the United States, which is in affiliation with the Association is entitled to representation in that body and to a voice in its proceedings. Simply see to it that delegates are elected; that they are furnished with credentials, and that they attend and represent their constituencies in the coming meeting. Let the Permanent Members go as Delegates also. The advantage of a delegate is this: When the discussion of a question is ended the Delegate can vote, the Permanent Member can not. In the decision of the important questions now pending, votes alone will tell! Let every section of the Union send its full quota of DELEGATES.

HOW TO SECURE RETURN TICKETS.—Persons desirous of securing commutation rates upon return tickets from Washington, must note the following requirements:

1. A certificate must be obtained at the office where the ticket is purchased stating that you have paid full fare for your ticket to Washington.
2. At Washington a certificate must be secured from the General Secretary of the Association certifying your attendance.
3. That certificate must be presented with the one which you received when you purchased your ticket at the railroad office where tickets over your road are for sale, and with that certificate in hand you will be able to obtain return tickets over the roads elsewhere designated at *one-third rates*.

In this connection we desire to bespeak your kind consideration of the needs and comfort of our always genial and obliging General Secretary, Dr. Atkinson. He will devote abundant time and designate the place and hours for obtaining his signature, and during these hours the members should be in prompt attendance. We protest against a custom which more and more obtains, of waylaying him in his dressing-room, in public halls, at the banquets, and in the midst of general discussions, for the purpose of gaining that coveted signature. He is burdened with many duties quite as important, and in order that he may give due attention to this it is essential that you obtain your certificates at the appointed time.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF PHYSICAL EDUCATION.—The sixth annual meeting of this association was held at Boston, April 3 and 4, Dr. D. A. Sargent presiding. An array of papers dealing with the physical education and elevation of the race were presented, many of the contributors being members of the medical profession. "The Delsarte System;" "Physical Education in Colleges;" "The Growth of Children;" "Physical Education in the Y. M. C. A.;" "Physical Training in the Regular Army;" "Some of Galton's Tests;" "The Muscular Strength of Growing Girls," etc., are among the subjects considered. One hundred and sixty new members were elected. The next annual meeting is to be held at Baltimore. A committee was appointed to petition Congress for the creation of a chair of physiology, hygiene and physical training at the U. S. Military Academy at West Point.

ON INDEFINITE TITLES.—Indefinite captions to articles in scientific periodicals are a delusion and torment, the very bane of indexers. Dr. Billings and others have repeatedly indicated to medical writers how good work may be partially nullified by the use of meaningless titles, such as "An Important Case," "An Improved Operation," "Ethical Question," "Useful Suggestion," "A Measure of Reform" and a thousand others that might be mentioned. When a writer has a valuable communication to make to the medical profession, he should so prepare it that it shall arrest the attention of the reader in pursuit of that particular kind of information, and be comprehended without unnecessary delay or

search. To do these two things, a great help is a precise and descriptive title, an outline in a very few words of the chief point contained in the contribution. If a writer finds that it is difficult to concisely state the object of his article, there is a strong presumption that he has nothing of importance to say to his medical brethren. Every pithy and instructive paper is worthy of a pertinent caption, and in ninety-nine cases out of a hundred such a caption can be formed with less than six to eight words.

FAULTY CONSTRUCTION OF A GOVERNMENT HOSPITAL.—A conflagration at the Naval Hospital, Brooklyn, narrowly escaped effecting the complete destruction of that institution. It is reported that the fire was occasioned by a faultily constructed chute for the disposal of sweepings and refuse from the wards. The members of the medical corps have repeatedly called the attention of the authorities at Washington to this inflammable wooden flue running from one story to another; but too much "red tape," or too little attention to duty, or both, resulted in its non-removal until the day of the fire, April 8, when the flames effectually destroyed it. Considerable damage was done to the hospital, but no lives were lost. The fire occurred in the daytime and was extinguished, by the aid of the fire department of the city, without much delay. The first principles of hospital construction would seem to interdict the construction or maintenance of combustible shafts or chutes such as that alleged to exist in this instance.

MEDICAL ITEMS.

INFLUENZA AT HONG KONG.—A very sharp epidemic of influenza has of late prevailed at Hong Kong, taking on all the characteristics of the same affection as observed in this country.

DIPHTHERIA IN IOWA.—Reports go to prove that this disease, which has prevailed quite freely for several months, has now greatly declined.

PIPERAZINE is a new uric acid solvent which promises to be a valuable addition to our list of remedies.

A FALLING-OFF IN CALIFORNIA.—According to the last issue of the Register of Physicians in the State of California there is a notable decline in the number of physicians seeking to locate in that land of fruit and flowers.

DIPHTHERIA IN NEWFOUNDLAND.—That a scourge of this kind has been existing in Newfoundland can be gathered from the following: Within the past two years 2,499 cases have occurred at St Johns, and as the population of the city is given as 30,000, it will be seen that the proportion of persons suffering was one in twelve. The rate of mortality has been one in five.

A LATE VIEW TOUCHING TUBERCULIN.—In an official report from P. A. Surgeon J. J. Kinyoun, detailed from the U. S. Marine-Hospital Bureau to study the methods of Professor Koch in the Hygienic Institute of the Berlin University, occurs the following: "I am more convinced that the remedy has but a limited range of usefulness, and should only be administered in the first stage of the disease."

TRANSACTIONS OF THE BERLIN INTERNATIONAL CONGRESS.—The Transactions of the Tenth International Medical Congress are now ready for distribution among members. Foreign members must make application and forward postage. Copies have been placed on sale in London.

TYPHUS FEVER IN NEW YORK CITY.—A case of this disease recently occurred at Bellevue Hospital, ending fatally. Until just before death it was quite impossible for the physicians in attendance to arrive at a diagnosis. Active precautions have been taken against the disease spreading abroad.

YELLOW FEVER ON STEAMSHIP FROM BRAZILIAN PORTS.—The steamship Dryden, from Rio and other Brazilian ports, arrived in New York Harbor, April 9, infected with yellow fever. Three deaths from the fever occurred among the crew during the passage northward. All three cases began and terminated between March 11 and 22; and no other cases arose after the latter date. The ship was detained at Quarantine for disinfection and was ordered to be kept there under observation for a period of five days.

INFLUENZA.—Dr. Benjamin Lee, of Philadelphia, has made a report based upon a consideration of upwards of 41,500 cases of influenza. We merely desire to say in this connection that if numbers are sought upon which to rest conclusions Dr. Lee will do well to place himself in communication with Chicago physicians.

TOPICS OF THE WEEK.

THE POSSIBILITIES OF MEDICINE.

At the recent commencement exercises of Long Island College Hospital Professor T. Gailliard Thomas, in giving the concluding address, spoke as follows:

Even in these un sentimental days many men chose their occupations more because of attending dangers and chances of heroism than from any less romantic notion of their usefulness. Thus the youth of a smiling country are persuaded to risk their lives on the sea, and the painter in the hope of fame starves at his work in the attic. Young men would willingly lay down their lives for the glory of a Sheridan or a Farragut. Arms, literature, art, law, divinity, all had bright and glorious rewards for those who had the courage to aspire to them; and patience to suffer for them, the industry to work for them and the genius to obtain them. Think you, continued the speaker, that the science of medicine, founded 400 years before the birth of Christ; the chosen work of our Saviour himself; the most far reaching and benign of all modern pursuits, stands alone in its inability to reward its votaries? Far from it. Look back with me into history, and I shall not be called upon to take you into the fields of ancient history, even, and it will go hard but I shall make you agree with me that of all callings, all pursuits, all professions, the rewards of medicine are greater, more lofty, more desirable and more enduring than those of any other in existence. His hearers would agree that he who had done the greatest good for his fellowman had, in the doing of, won the greatest rewards in earth's possessions, even if no mortal man knew of the deed but him. The forces of civilization work hand in hand for the common good. All the forces of intelligence, law, the fine arts, religion and medicine were all contributing their quota. Hygiene—the science of cleanliness—as taught by medicine, had wiped off the globe the terrible scourges which made the dark ages so terrible. Cholera, the dread monster, had been almost totally shut up in its birthplace in Asia and checked in its wanderings over the world. Quarantine had transferred yellow fever from a universal menace into a local distemper. Small-pox had been lashed to hell by the agent vaccination, and like a whimpering hound was held securely in leash. The work of medicine had far more numerous conquests than even those enumerated. So wonderful, so startling, so extraordinary were those results that he feared his non-medical hearers would suspect him of boasting if he read the full record of the proud achievements of medicine during the past hundred years. But conquests in the past in no wise curtailed the possible achievements in the future. One great initial discovery ever opened the way for numberless others equally as great to be made. This was illustrated by the microscope, by the telescope, by the circulation of the blood, by steam and electricity. The discovery of the transmission of disease by bacilli had brought the students of today upon a plane far more elevated than that which even the youngest of their teachers occupied upon his graduation. The present students' possibilities in medicine

were proportionately greater than his were, and it was their function to profit by their good fortune.

The speaker declared if he had the power to accomplish one wish in his life he thought he would select the destruction of the process by which alcohol was created. If that were denied him, the power of stamping out forever those contagious diseases which fill our graves with curly heads and dimpled cheeks and our homes with sorrow that knows no comforting. He would destroy those terrors of the household, scarlatina, diphtheria and the host of contagious maladies which went hand in hand with them. The first of these wishes was impossible of attainment. But not so of the second. The way of its accomplishment was open to every man with willing hand, determined mind and intelligent brain. Surely it was not too sanguine a prediction that the next century might see the extinction of contagious disease. Elaborating this point, the speaker pointed that since 1799, the date of Jenner's discovery of vaccination for small-pox—and unless the claims of Pasteur and Koch should prove valid—no other contagious disease has been prevented by the elaboration of the brilliant idea of inoculation. Diseases were also checked by certain drugs which seemed to have the power of destroying their bacilli cause; but with these but two diseases had been checked in the history of medicine. Here was the field and it remained but for the student of to-day to work in it. There was everything to accomplish and the road was made clear before him. After formulating his suggestions in detail and giving illustrations of how genius had labored long to solve some of the simplest problems of life the speaker said in conclusion:

The motto of the New York Academy of Medicine, coming down from mythological times, is this: "*Hominibus deos accedunt hominibus dando salutem.*" "Men most nearly resemble the gods when they afford health to their fellow-men." If, as seems now highly probable, Robert Koch should succeed in curing and preventing tubercular disease in its various manifestations, what greater reward could he possibly ask for than the pleasure which he must feel when the reflection to which this motto gives rise comes to his mind. The reward of the physician whose happy discovery stamps out a disease which before his day slew its thousands, comes from the hand of no Emperor; his glory from the appreciation of no applauding multitude; his renown from the pen of no fulsome historian. For him the victor's crown comes from the hand of the immortal God; his glory from the satisfaction of doing a great and glorious work; his renown from the gratitude of his fellow-men! The "great awakening light" which blessed the eyes of Abou Ben Adhem, not the imperial purple which decked the shoulders of the mighty Julius, constitutes his diadem and causes a halo to shine around his head! In the golden days of chivalry, when a young knight was to receive the accolade and become the defender of the weak and the redresser of wrong, he was required to spend an entire night in cathedral or other solemn place, reflecting upon the purity, the beneficence and the grandeur of his new office, and in forming the noble resolve to make of it no trade, but to administer his duties with the love of

man in his heart and the glory of God in his soul. Let this night and these exercises bear to you the relation of that vigil night of old! Medicine is the noblest of professions; the meanest of trades. Unless you can live lives of purity, of virtue, of honor and of honesty, seek a livelihood elsewhere and insult not the gods by striving through base methods and ignoble ambitions to resemble them! Will you not now fully agree with me when in closing this address I ask you whether the possibilities of medicine are not really greater than those of her sister sciences and arts? Will you not accord in my postulate that arms, arts, literature, science, all have their rewards, but that not one of them surpasses in the magnificence of its gifts those of which the godlike science, medicine, is capable? When, a quarter of a century hence, I meet with one of you, as we both wend our ways along the highway of life, my locks as white as the driven snow and yours as white as mine are now, come up to me, report yourself as a member of the graduating class of the Long Island College Hospital of 1891, and tell me which one of the beneficent discoveries which the next twenty-five years are sure to bring forth has been the means of causing you to resemble the gods and enrolled your name "among the few, the immortal names that were not born to die;" and I, recalling at once to mind you and this pleasant evening which has made us acquainted, will bid you God-speed, even as I do to-night.

THE PHONOGRAPH IN MEDICINE.

The applicability of the phonograph to the record and demonstration of defects in speech has been well illustrated during the past week at the Royal Medical and Chirurgical Society and at the Hunterian Society. At the first-named Dr. Hale White and Mr. Golding-Bird were enabled by means of this instrument to allow the Fellows present to hear the curiously defective speech of two children, and to contrast this with the improvement effected by treatment, for the subjects were present, and after the phonograph had given their past utterances, their present speech was demonstrated *viva voce*. The papers read by the above gentlemen and that by Dr. F. Taylor led to an instructive debate, which was further illustrated by some marked cases introduced by Dr. Hadden. The outcome seemed to be that these defects in articulation are probably of central origin, and not due to any mechanical interference with the organs of speech. Whether, as suggested by Dr. Langdon Down and Mr. Spencer Watson, the defect was primarily one of audition is a question certainly worthy of consideration. Another point raised was whether the defect should be considered one of speech or language, and some exception was taken by Drs. Taylor, Pye-Smith, and others, to the use of the term "idioglossia," which, however, was ably defended by Dr. Hale White. The other phonographic demonstration at the Hunterian Society was by Dr. Hughlings Jackson, who thus reproduced the characteristic speech of a subject of cerebro spinal sclerosis. There can be little question that the phonograph will ultimately prove very useful, especially in the preservation of certain anomalies of articulation, and its further extension to other sound phenomena in the range of clinical medicine may be justifiably hoped for.—*The Lancet*.

WORD-BLINDNESS WITH UNUSUAL FEATURES.

The following case was reported by Professor Mierzejewski at a recent meeting of the St. Petersburg Society of Psychiatry, and is given in the *Neurologisches Centralblatt* for December 15, 1890. A physician, fifty-six years old, had had syphilis in his youth, and for several years had suffered from chronic nephritis. In January, 1890, he had an attack of uræmic coma, which lasted four or five days. He had since had two other attacks of shorter duration. Some time after the third attack, which occurred last spring, the patient noticed that he had lost the power of reading, although he could distinguish the letters easily, and his sight in general was unchanged. Mierzejewski found the following, on examination: The patient sees each individual letter clearly, but is unable to join the letters into syllables or words. He writes without difficulty and correctly whatever is dictated to him, but can not read what he has written. He can write prescriptions in due form, but cannot read them afterward. He can make correct copies without understanding the meaning of the words copied. Numbers, however, he can read and pronounce correctly. The patient's sight is perfect, and the fundus of the eye is normal. There is no disturbance of speech, and the intelligence is unaffected. There is no change in sensation, motion, or the reflexes. After looking through the literature of the subject, Mierzejewski concludes that this is the first case of word-blindness as yet reported in which the ability to distinguish the single letters was retained, and he calls it *cæcitas syllabaris et verbalis, sed non litteralis*.—*N. Y. Med. Jour.*

THE NAVAL MEDICAL SERVICE.

Mr. Tracy, Secretary of the Navy, is evidently no friend of the medical profession, nor is he very keen for the improvement of the *personnel* of the service, if one may judge from the following Washington despatch printed in the *New York Times*. The writer says:

"The medical corps of the Navy is still experiencing considerable difficulty in filling vacancies in the grade of assistant surgeon. Several candidates have recently been examined by the New York Board, but none was successful. The San Francisco Board has been dissolved because no candidates presented themselves. The medical colleges are now being canvassed by tempting circulars sent out by the Navy Department. The reluctance felt by students toward entering this branch of the Government service is obvious. Until Congress has increased the pay and conditions aboard ship of assistant surgeons, medical officers say that it will be impossible to keep the corps recruited to its full quota unless the standard of examination is reduced. This Secretary Tracy has absolutely refused to do."

The Naval Department is expending enormous sums in the building of ships; but, after all, these new monsters of the sea cannot be efficiently utilized without a high class of officers and men. Money expended in promoting this end would be wisely spent, and it is difficult to understand why, when millions are spent on experimental ships and guns, a few thousands cannot be used for raising the standard of the medical service to that of the army. As it is now, it looks as though it was involuntarily boycotted.—*Medical Record*.

PRACTICAL NOTES

PAINLESS CIRCUMCISION.

The suggestion of Dr. Overall, strongly endorsed by Dr. Storch, for producing anæsthesia of the parts to be operated upon, is as follows: Of a twenty to thirty per cent. solution of cocaine let ten or fifteen drops be pressed into the preputial opening with a blunt-pointed syringe and retained by pressure as the syringe is withdrawn. Let the parts be so manipulated that the entire preputial mucous membrane shall be in contact with the fluid ten or fifteen minutes. At the same time the integument where circumcision is to take place should be sprayed with the following mixture:

R. Chloroform, ʒ ijs.
Ether sulphuris, ʒ iv.
Menthol, grs. xv. ʘ.

Continue the spraying of the parts until complete anæsthesia is produced. Following this procedure the operation is painless.

If the operation be performed for enuresis of long standing, the following medication is recommended:

R. Atropiæ sulph., grs. ij.
Aquæ distillatæ ʒj. ʘ.

Sig. One drop for each year of the age of the child at 4 o'clock and at 7 o'clock, increasing the dose if no effect is produced after one week.

WHAT SHALL BE DONE FOR A COLD IN THE HEAD.

It may not be always possible to break up a cold. Sometimes during the congestive stage, anything which will allay irritation will suffice. The person who feels a cold coming on should instantly betake himself to bed, drink a cup of hot ginger-tea, and make use of a snuff like that which was proposed several years ago by Dr. Ferrier:

R. Morph. sulph., gr. j.
Bismuth subnit., ʒ iij.
Pulv. acaciæ, ʒj. ʘ.

The insufflation of a little morphine at the commencement of a cold in the head is sometimes attended with very happy results. Quinine as an abortant in commencing cold is much in use; the dose should be somewhat large; Dr. T. J. MacLagan says ten grains. Its efficiency is, however, rather problematical. Doubtless, menthol is one of the best local applications in the early stages of coryza. It may be used in the form of an ointment (menthol one part, vaseline thirty parts), or as a spray with liquid alcoholene. A formula which may do good service is the following: Menthol, one part, liquid alcoholene, thirty parts. A special spray atomizer, such as sold by all the instrument makers, is needed for the effective use of this combination. Menthol seems to control

gestion to the mucous membrane; it is often followed by a profuse flow of nasal mucus with little sneezing. Breathing through the nose and mouth the steam of hot camphor water, and the internal use of carbonate of ammonia, are also recommended, and there is often utility in the production of active diaphoresis. Many of late years have claimed decided benefit from full doses of antipyrin, acetanilid, phenacetin, in the onset of colds; and, doubtless, these new remedies are more and more taking the place of the depressant diaphoretics.—*Boston Medical and Surgical Journal*.

PREVENTION OF PITTING IN SMALL-POX.

The pitting of small-pox has been entirely prevented by Dr. Lewintaner, of Constantinople, by antiseptic treatment, as follows: The entire head and face, except eyes, and the neck, are covered with plaster consisting of three parts carbolic acid and fifty parts each of olive oil and starch. The body is covered over with a mixture of three parts salicylic acid, thirty parts starch, and seventy parts olive oil. The internal treatment consists in giving quinine in acid solution.—*Wien. Klin. Woch.*

THE DEODORIZATION OF IODOFORM BY CREOLIN.

Dr. Ludwig Váci, a practitioner in Nagy-Karoly, communicates to the *Medicinisch-chirurgische Rundschau* his discovery of the power of creolin to deodorize iodoform. He had prescribed an ointment consisting of one part of creolin, two of iodoform, and twenty-five parts of vaseline. On the following day he was surprised that not only was the usual color of iodoform ointment changed, but that there was no smell of iodoform and only a slight smell of creolin. He points out how important it is in many cases that the presence of iodoform should not be known by its odor, and considers creolin the very best of all deodorizing drugs for the same. It not only does not irritate, but it is also itself a good disinfectant.—*Lancet*.

A POWDER FOR DYSPEPSIA.

Dujardin-Beaumetz (*L'Union Médicale*) uses the following powder for painful dyspepsia and gastralgia:

R. Bismuth subnit.,
Magnesiæ,
Crete prep.,
Calcii phosphatis aa ʒijss. ʘ.

Divide in pulv. No. XL. Sig. One powder before each meal.

FOR ENURESIS.

R. Tinct. cantharidis, gtt. xvj.
Mucil. acaciæ, ʒj.
Pepsin cordial, P. D. & Co., ʒxvj. ʘ.
S. ʒj ter in die.

—*The Country Doctor*

ASSOCIATION NEWS.

American Medical Association.

Preliminary Programme of the Forty-second Annual Meeting, to be held at Washington, D. C., May 5 to 8, 1891.

President's Address, by Wm. T. Briggs, Nashville, Tenn.

On General Medicine, by E. L. Shurly, Detroit, Mich.

On General Surgery, by Jos. M. Mathews, Louisville, Ky.

On State Medicine, by W. L. Schenck, Topeka, Kan.

Committee on Arrangements: Dr. D. C. Patterson, Chairman, 919 I Street, N. W., Washington, D. C.

Section of Practice of Medicine and Physiology.

"The Growing Importance of Chemical Studies in Medical Education and in Medical Research," by the Chairman.

Title not received, Wm. Osler, Baltimore.

"A Contribution to the Clinical Study of Protracted Pyrexia," by Wm. Pepper, Philadelphia.

"The Report of a Case of Fatty Urine accompanying an Abscess in the Right Iliac Fossa," by J. P. Connelly, Williamsport, Pa.

"The presence and significance of Albuminuria in Persons Apparently Healthy," by W. B. Davis, Cincinnati.

"The Diagnosis of Renal Calculus," by I. N. Danforth, Chicago.

Title not received, J. C. Wilson, Philadelphia.

"A Pathological Condition of the Lungs hitherto undescribed in this country, but which is not infrequent," by F. Peyre Porcher, Charleston, S. C.

Title not received, J. H. Musser, Philadelphia.

Title not received, W. J. Herdman, Ann Arbor, Mich.

"Some of the Remote Effects of Injury to the Brain in Delivery," by F. W. Goodell, Bennington, Vt.

"Physiological Properties of Living Tissue and their Relations to Practical Medicine," by N. S. Davis, Chicago, Ill.

"Recent Contributions to the Knowledge of Diphtheria," by J. Lewis Smith, New York.

"Koch's Treatment of Tuberculosis," by John B. Hamilton, Washington.

"Prof. Koch's Method for the Cure of Tuberculosis and its Results in Pulmonary and Laryngeal Cases," by Karl von Ruck, Asheville, N. C.

"Tuberculin in the Treatment of Tuberculosis, with a Report of Cases treated at the Good Samaritan Hospital of Cincinnati," by S. P. Kramer, Cincinnati, O.

"On the Treatment of Chronic Phthisis," by Asa F. Pattee, Boston, Mass.

"Strychnine as a Cardiac Supporter in Acute Febrile Diseases," by S. Solis-Cohen, Philadelphia.

"Antiseptic Treatment and Liquid Diet in Typhoid Fever," by B. M. Griffith, Springfield, Ill.

"Naphthalin in Typhoid Fever, based on One Hundred Cases," by L. Wolf, Philadelphia.

"The Present Status of Antiseptic Medication," by F. J. Groner, Grand Rapids, Mich.

"Some Clinical Experiences with Eucalyptol," by J. N. Brainerd, Alhna, Mich.

"The Atmospheric Causative Relations of Intermittent Fever," by H. B. Hemenway, Evanston, Ill.

"Further Studies in Malarial Disease," by George Dock, Galveston, Texas.

Title not received, Chas. G. Stockton, Buffalo, N. Y.

Title not received, C. W. Dulles, Philadelphia.

"Some Accidental Cardiac Murmurs," by N. S. Davis, Jr., Chicago.

"The Pulse," by Starling Loving, Columbus, O.

"Slow and Rapid Pulse, Causation and Treatment," by D. Webster Prentiss, Washington.

"Have we a Science of Medicine?" by H. J. Herrick, Cleveland, O.

Title not received, W. F. Waugh, Philadelphia.

"Digitalis in the First and Second Stages of Pneumonia," by J. W. Carhart, Lampasas, Tex.

"Treatment of Spasmodic Asthma," by J. F. Jenkins, Tecumseh, Mich.

"Antiseptic Midwifery," by Hiram Corson, Plymouth Meeting, Pa.

"Epidemic Cerebro-Spinal Meningitis," by J. S. Nowlin, Shelbyville, Tenn.

"The Action of the Turkish Bath in Disease," by Chas. H. Shepard, Brooklyn, N. Y.

VICTOR C. VAUGHAN, Chairman.

Ann Arbor, Mich.

GEO. DOCK, Secretary,

Galveston, Tex.

Section of Obstetrics and Diseases of Women.

"Joint Reflexes Consecutive to Pelvic Inflammation," by W. W. Potter, Buffalo.

"Removal of the Appendages for Relief of Nervous and Mental Disturbances," by Geo. J. Engelman, St. Louis.

"Relation of Gynecology to Neurology," by Wm. B. Delbers, Salina, Kan.

"A Report of Ten Selected Cases of Laparotomy with Remarks," by Jno. A. McIntyre, St. Louis.

"Some Comparative Data on the Treatment of Uterine Tumors," by Marie B. Werner, Philadelphia.

"A Peculiar Forceps Complication," by Dan. Millikin, Hamilton, O.

"Treatment of Posterior Face Presentations," by E. T. Bernardy, Philadelphia.

"The Practical Treatment of Accidental Abortion," by Bedford Brown, Alexandria, Va.

"Exhibition of 35 Specimens of Ectopic Gestation Removed Post-mortem," by Henry F. Formad, Philadelphia.

"Ectopic Pregnancy," by Donnel Hughes, Philadelphia.

"Report of Cases of Ectopic Gestation," by C. S. and W. D. Hamilton, Columbus, O.

"Hysterectomy Without a Pedicle," by S. C. Gordon, Portland, Maine.

"Present Status of Minor Gynecological Surgery," by J. M. Baldy, Philadelphia, Pa.

"Pyoktanin as an Antiseptic," by H. J. Boldt, New York, N. Y.

"A Triplet Birth," by A. A. Barton, Plains, Pa.

"Practical Remarks with Reference to the Technique of Intra-peritoneal Operations," by R. Stansbury Sutton, Pittsburgh, Pa.

"Rapid Dilatation and Curetting," by J. G. Carpenter, Stanford, Ky.

"Pathological Antelexion of the Uterus," by Eliza J. C. Minard, Brooklyn, N. Y.

"The Technique of Successful Abdominal and Pelvic Surgery," by Wm. H. Wathen, Louisville, Ky.

"The Clinical Teaching of Obstetrics in America," by E. S. McKee, Cincinnati, O.

"The Restoration of the Pelvic Structures after Injury," by Henry O. Marcy, Boston, Mass.

"When is Antisepsis a Failure?" by George Erety Shoemaker, Philadelphia, Pa.

"My Experience with the Surgical Treatment of Retroflexion and Prolapsus Uteri;" Outline of Paper: 1. Comparison between Alexander's Operation and Hysterorrhaphy as applied to Retro-displacements and Prolapsus, respectively. 2. Vaginal Operations for the Cure of

Above Displacements. 3. Permanency of Results from each, by Paul F. Munde, New York, N. Y.

"Short or Coiled Funis," by A. F. A. King, Washington, D. C.

"What Cases Should be Drained After Abdominal Section," by Rufus B. Hall, Cincinnati, O.

"Treatment, Medical, Surgical and Electrical, of Uterine Fibroids," by Franklin H. Martin, Chicago, Ill.

"Papillomatous Cystoma of the Ovary with Report of a Case," by A. B. Walker, Canton, Ohio.

"Supra Vaginal Extra-Peritoneal Hysterectomy, Including the Porro Operation, With Report of Cases," by Joseph Price, Philadelphia, Pa.

"Backward Displacements of the Uterus," by L. S. McNulty, Louisville, Ky.

"Pathology and Treatment of Chronic Ovaritis," by A. J. C. Skene, Brooklyn, N. Y.

"Drainage After Laparotomy—When in Doubt *do not Drain*," by B. F. Bacr, Philadelphia, Pa.

"Report of a Case of Double Vagina and Uterus," by N. Guhman, St. Louis, Mo.

"Hydrorrhea Following Pregnancy," by J. H. Bradshaw, Orange, N. J.

"Prevention of Puerperal Convulsions by the Induction of Premature Labor," by H. D. Fry, Washington, D. C.

"Abdominal Drainage, Presentation of a Simple Drainage Apparatus," by Robert T. Morris, New York, N. Y.

"Currents of Induction," by Horatio R. Bigelow, Philadelphia, Pa.

"Fibroid Tumors of the Uterus Growing after the Menopause," by J. Taber Johnson, Washington, D. C.

"A New Forceps," by L. E. Neale, Baltimore, Md.

"The Protection of the Perineum," by W. S. Gardner, Baltimore, Md.

"Two Suggestions Regarding the Surgical Treatment of Imperforate Hymen With Retained Menses," by Jas. F. W. Ross, Toronto, Canada.

"Spasmodic Stricture of the Urethra Following Labor," by Llewellyn Eliot, Washington, D. C.

"Metrorrhagia of Tubal Origin," by T. A. Ashby, Baltimore, Md.

"A certain Class of Obstetric Cases in which the use of Forceps is Imperatively Demanded," by Augustus P. Clarke, Cambridge, Mass.

"Adenoma Uteri," (With Specimens) by H. C. Coe, New York, N. Y.

"Can the Gynecologist Aid the Alienist in Institutions for the Insane?" by I. S. Stone, Washington, D. C.

"The Management of Cases of Abdominal Section After Operation," by C. P. Noble, Philadelphia, Pa.

"Laparo-hysterorrhaphy," by W. J. Asdale, Pittsburgh, Pa.

"The Surgical Treatment of Retroflexion of the Uterus," by Young H. Bond, St. Louis, Mo.

"Hysterorrhaphy," by William Pawson Chunn, Baltimore, Md.

"The Management of the Drainage Tube," by Hunter Robb, Baltimore, Md.

"The Histology and Pathology of the Fallopian Tube," by J. Whitridge Williams, Baltimore, Md.

"A New Plastic Operation for Complete Descent of the Uterus," by E. C. Dudley, Chicago, Ill.

"Post Operative Peritonitis," by Benjamin T. Shimwell, Philadelphia, Pa.

"Laparotomy with Report of Cases," by J. H. Branham, Baltimore, Md.

"Twelve Hundred Cases of Labor and Results," by George R. Dean, Spartanburgh, S. C.

"Is the Removal of the Uterine Appendages for the Relief of Epilepsy Justifiable?" by A. VanderVeer, Albany, N. Y.

"Diagnosis of Pregnancy in the Early Months," by Charles Jewett, Brooklyn, N. Y.

"The Electrical Treatment of Fibroid Tumors," by G. Betton Massey, Philadelphia, Pa.

"Treatment of Ectopic Gestation," by E. E. Montgomery, Philadelphia, Pa.

"The Use of Vaginal Tampons," by W. A. B. Sellman, Baltimore, Md.

"The Retroflexed Uterus and its Treatment," by W. Hampton Caldwell, Lexington, Ky.

"Diagnosis and Treatment of Peritonitis," by W. H. Myers, Fort Wayne, Indiana.

"The Management of the Omentum after Abdominal Section," by Andrew F. Currier, New York, N. Y.

"The Relation of Déséquilibres of the Abdominal Viscera to Pelvic Diseases in Women," by J. H. Kellogg, Battle Creek, Mich.

"Treatment of Occipito-posterior Positions," by A. Worcester, Waltham, Mass.

"My Fourth Conservative Cesarean Section," by Howard A. Kelly, Baltimore, Md.

"Conservatism in Dealing with the Appendages," by W. M. Polk, New York.

Title not received, E. L. Duer, Philadelphia, Pa.

Title not received, Thos. Opie, Baltimore, Md.

CHAS. A. L. REED, Chairman,
311 Elm St., Cincinnati, O.

HOWARD A. KELLY, Secretary,
Johns Hopkins Hospital, Baltimore, Md.

Section of Surgery and Anatomy.

Address of the Chairman: "Use of the Elastic Ligature in the Surgery of the Intestines," by T. A. McGraw, Detroit, Mich.

"The Pathology and Treatment of Peri-Cæcal Inflammation, with the Report of Cases Illustrating Diagnosis," by Thos. L. Morton, Philadelphia, Pa.

"Removal of the Appendix for Recurring Attacks of Appendicitis," by Jos. Price, Philadelphia, Pa.

Three Unusual Cases: 1. Large Fatty Tumor of Scrotum. 2. Complete Removal of the External Organs of Generation. 3. Removal of a Foreign Body from the Right Bronchus, by A. VanderVeer, Albany, N. Y.

"The Scientific *Rationale* of Modern Wound Treatment," by Henry O. Marcy, Boston, Mass.

"The Relation of Concussion of the Brain and Spinal Cord to Inflammatory and other Morbid Changes in these Organs," by B. A. Watson, Jersey City, N. J.

"Linear Craniotomy for Defective Mental Development," by W. W. Keen, Philadelphia, Pa.

"Peritonitis from a Surgical Standpoint," by Mordecai Price, Philadelphia, Pa.

"A New Operation for Harelip," by Chr. Fenger, Chicago, Ill.

"A Report of Epicystotomies," by Chas. S. Hamilton, Columbus, O.

"Report of a Lumbar Nephrectomy," by William D. Hamilton, Columbus, O.

"Some Points in the Surgical Treatment for the Radical Cure of Hernia," by Augustus P. Clarke, Cambridge, Mass.

Series of One Hundred Abdominal Sections," by Joseph Taber Johnson, Washington, D. C.

"Transection of the Chest," by J. McF. Gaston, Atlanta, Ga.

"The Removal of Necrotic Bone with Hydrochloric Acid and Pepsin," by Robt. J. Morris, New York, N. Y.

"Coeliotomy for Rupture of the Uterus during Labor," by H. C. Coe, New York, N. Y.

"A Practical Technique in Intestinal Surgery," by A. V. L. Brokaw, St. Louis, Mo.

"Platinum Needles for Electrolysis," by Robert Newman, New York, N. Y.

"The Pathology and Treatment of Stricture of the Male Urethra," by Thos. J. Druth, Harrisburg, Pa.

"Another Modified Spinal Jacket, with a new Jury Mast," by S. L. McCurdy, Dennison, O.

"On the Deaths from Chloroform and Ether, since the Hyderabad Commission, with Conclusions drawn from them," by Laurence Turnbull, Philadelphia, Pa.

"Exploratory Incisions in Cases of Fracture of Bones where Doubt Exists as to their Character, with Report of Observations in the Lower Animals," by B. Merrill Rickets, Cincinnati, O.

"Dislocations upward and backward of the Scapular and of the Clavicle," by Wm. H. Doughty, Augusta, Ga.
"A New and Novel Procedure in Skin-Grafting," by C. B. Kibler, Corry, Pa.

"Sprains of the Ankle," by W. R. Townsend, New York, N. Y.

"The Relation of Calculi to Malignant Disease of Liver and Kidneys," by I. S. Stone, Washington, D. C.

"The Relations of Syphilis to the Healing of Wounds and Surgical Diseases," by G. Frank Lydston, Chicago, Ill.

"Combined Internal and External Urethrotomy with Perineal Drainage," by F. W. McRae, Atlanta, Ga.

"Treatment of Umbilical Hernia in Children," by Jno. T. Chapman, Bessemer, Ala.

"The Management of the Epicyclic Fistula," by J. D. S. Davis, Birmingham, Ala.

Title not received, Wm. D. Hamilton, Columbus, O.

"Two Cases of Intestinal Obstruction; Laparotomy; Results," by David Barrow, Lexington, Ky.

"Is Early Resection or Conservative Treatment Advisable in Coxitis," by Herman Mynter, Buffalo, N. Y.

"Infra-Pubic Cystotomy," by John A. Wyeth, New York, N. Y.

"Electricity as a Therapeutic Agent; What is Needed to Determine its Merits?" by W. J. Herdman, Ann Arbor, Mich.

THEO. A. MCGRAW, Chairman,
Detroit, Mich.

W. E. B. DAVIS, Secretary,
Birmingham, Ala.

Section of State Medicine.

FIRST DAY.

Registration of the names of members present.
Reading of the Minutes of the last meeting.
Annual Address by the Chairman, J. D. Plunket.
Report of the Committee on School Hygiene; D. T. Lincoln, Chairman.

Original Investigations on the Heating and Ventilation of School Buildings, by R. Harvey Reed, offered as a portion of the Report of the above-named Committee.

SYNOPSIS OF REPORT.

1. Date and time of day of inspection.
2. Name of building and room.
3. Number of cubic feet of air in room.
4. Number of pupils present.
5. Outside temperature.
6. Temperature of room, at level of feet, head and ceiling.
7. Humidity outside.
8. Humidity in room, at level of feet, head and ceiling.
9. Kind of heating apparatus in use.
10. System of ventilation employed.
11. Number of cubic feet of fresh air supplied and of foul air discharged per hour.
12. Estimation of amount of carbon-monoxide present in the air of the room.
13. Estimation of amount of carbon-dioxide.
14. Consideration of amount of organic matter present in the air of the room.
15. Bacteriological examination of the air.
16. Miscellaneous remarks and suggestions.
17. Conclusions.

The discussion on this subject will be opened by Octavius A. White, New York, N. Y. The subject being one of great importance, the remainder of this session will be devoted to its discussion.

SECOND DAY.

Report of the "Committee on Meteorological Conditions of the Atmosphere and their Relations to coincident prevalence of Diseases," by N. S. Davis, Chairman.

"Sickness and Mortality in the Army of the United States," by Joseph R. Smith, Col. and Surgeon U. S. A. Medical Director, Department of Arizona.

"The Beneficence of Disease," by A. N. Bell, Brooklyn, N. Y.

Election of officers for the ensuing year.

THIRD DAY.

"The Disinfection of Excreta," by George M. Sternberg, Lieut. Col. and Surgeon U. S. A.

"Simple Methods of Sewage Disposal," by C. W. Chancellor, Secretary of the State Board of Health of Maryland, Baltimore, Md. Discussion on the above papers opened by Dr. Robert C. Davis, Member of New York City Board of Health, N. Y.

"The Coroner System in the United States," by Henry O. Marcy, Boston.

"Hygiene in the Rural Districts," By G. W. Jenkins, Kilbourn City, Wis.

"The Duty of the Government in the Prevention of Tuberculosis," by Lawrence E. Flick, Philadelphia.

Papers are also expected from Walter Wyman, United States Marine-Hospital Service; James F. Harrison, Gainesville, Virginia; and Peter H. Bryce, Secretary of the Provincial Board of Health of Ontario.

J. D. PLUNKET, Chairman,
145 N. Spruce St., Nashville, Tenn.
BENJAMIN LEE, Secretary,
1532 Pine St., Philadelphia, Pa.

Section of Ophthalmology.

FIRST DAY—MAY 5TH. AT 3 P.M.

Remarks by the Chairman.

"The Causation and Management of Incipient Cataract," by Samuel D. Risley, Philadelphia, Pa.

"Treatment of Incipient Cataract by Electricity and other Measures," by J. Elliott Colburn, Chicago, Ill.

"Treatment of Immature Cataract, including (a) Report of Twenty-five Extractions of Immature Cataract; (b) Review of Various Modes of Artificially Maturing the Slowly Forming Cataract," by John F. Fulton, St. Paul, Minn.

"The Method of Performing Cataract Extraction," by J. J. Chisolm, Baltimore, Md.

"My Personal Experience in Cataract Extraction," by A. W. Calhoun, Atlanta, Ga.

"Practical Observations in the Treatment of Cataract," by Flemming Carrow, Ann Arbor, Mich.

"Pressure on Eyeball after Cataract Extraction," by Edward Jackson, Philadelphia, Pa.

"To what Extent are Personal Restraints Essential During the Healing of Corneal Wounds," by T. E. Murrell, Little Rock, Ark.

"An Improved Apparatus for the More Efficient Protection of the Eye after Cataract Extraction," by Geo. E. Frothingham, Detroit, Mich.

Discussion upon these papers, opened by H. Knapp and Karl Koller, New York; F. C. Hotz, Chicago, Ill.; J. L. Thompson, Indianapolis, Ind.; S. O. Richey, Washington, D. C.; P. D. Keyser, Philadelphia, Pa.

Voluntary Communications, Exhibition of Patients, Instruments or Pathological Specimens, etc.

Miscellaneous Business.

SECOND DAY—MAY 6TH.

Election of Officers (Time fixed by the By-Laws).

"The Centrad in the Reformed Numeration of Prisms," by B. Alexander Randall, Philadelphia, Pa.

Discussion opened by Swan M. Burnett, Washington, D. C.; W. S. Dennett, New York; Edward Jackson, Philadelphia, Pa.

"Further Contributions to Keratometry," by Swan M. Burnett, Washington, D. C.

Discussion opened by Geo. de Schweinitz, Philadelphia, Pa.

"Full Correction of Ametropia," by Edward Jackson, Philadelphia, Pa.

Discussion opened by G. C. Savage, Nashville, Tenn.

"An Analysis of One Hundred Cases of Astigmatism—Contrary to Rule and the Associated Symptoms," by Geo. de Schweinitz, Philadelphia, Pa.

Discussion opened by Wm. Cheatham, Louisville, Ky.
 "The Value of Weak Cylinders for the Relief of Eye Muscle Strain," by J. J. Chisolm, Baltimore, Md. The points made by this paper are—(a) Is it necessary to recognize the very small degrees of corneal irregularity? (b) Is it possible to work eyes comfortably with these slight errors? (c) Is the Eye Surgeon warranted in prescribing glasses as feeble as 0.25 cylinders? (d) What can such weak cylinders accomplish?

Discussion opened by Geo. T. Stevens, New York.
 "Paper on Myopia Based upon Recent Original Observations," by Francis Dowling, Cincinnati, O.

Discussion opened by A. W. Calhoun, Atlanta, Ga.; B. A. Randall, Philadelphia, Pa.; J. M. Ray, Louisville, Ky.; C. H. Hughes, St. Louis.

"Double Monocular Diplopia Dependent upon Cerebral Lesion," by J. H. Thompson, Kansas City, Mo.

Discussion opened by Charles A. Oliver, Philadelphia, Pa.

"A Study of Fifteen Hundred Cases of Ametropia," by A. R. Baker, Cleveland, O.

"Lessons of Fifteen Hundred Consecutive Refractive Cases in Private Practice," by George M. Gould, Philadelphia, Pa.

Discussion upon these two papers opened by J. A. Lippincott, Pittsburgh, Pa.

"An Examination of von Graefe's Doctrine of Antipathy to Single Vision," by George T. Stevens, New York.

Discussion opened by J. H. Thompson, Kansas City, Mo.

Voluntary Communications, Exhibition of Patients, Instruments or Pathological Specimens, etc.

THIRD DAY—MAY 7TH.

"Hæmorrhagic Glaucoma," by R. L. Randolph, Baltimore, Md.

Discussion opened by F. C. Hotz, Chicago, Ill.
 "Perimetric Observations on the Influence of Eserine and Iridectomy in Chronic Glaucoma," by Geo. de Schweinitz, Philadelphia, Pa.

Discussion opened by Karl Koller, New York, and Lewis H. Taylor, Wilkesbarre, Pa.

"An Experimental Study of the Comparative Mydriatic Effect of Atropia and Homatropia," by Horace M. Starkey, Chicago, Ill.

Discussion opened by Chas J. Kipp, Newark, N. J.
 "Modern Ophthalmic Therapeutics," by W. T. Mitterdorf, New York.

Discussion opened by R. L. Randolph, Baltimore, Md.
 "Jequirity in the Treatment of Granular Lids," by J. G. Carpenter, Stanford, Ky.

Discussion opened by J. W. Wright, Columbus, O.
 "Papilloma of the Cornea, with Specimens," by S. C. Ayres, Cincinnati, O.

Discussion opened by H. Knapp, New York.
 "Prognosis in Treatment of Injuries of the Eye," by C. M. Hobby, Iowa City, Iowa.

Discussion opened by X. C. Scott, Cleveland, O.
 "Excision of Diseased Eyeball, Followed by Relief of Cerebral Derangements," by H. Moulton, Fort Smith, Ark.

Discussion opened by J. E. Coburn, Chicago, Ill.
 "Independent Relation of Trachoma and Blepharitis Papillaris," by Dudley S. Reynolds, Louisville, Ky.

Discussion opened by W. T. Montgomery, Chicago, Ill.
 "The Pathogeny of Sympathetic Ophthalmia," by F. C. Heath, Lafayette, Ind.

Discussion opened by George H. Goode, Cincinnati, O.
 "Choroidal and Retinal Hæmorrhages, their Many Causes, etc., Including Some Hitherto Unrecognized," by William H. Cheatham, Louisville, Ky.

Discussion opened by W. V. Marmion, Washington, D. C.

"A Case of Fibro-Sarcoma of the Neck attended by Temporary Paresis of the Third Nerve, Illustrated by Photographs and Microphotographs," by A. V. Würdemann, Milwaukee, Wis.

"An Analysis of the Sensory Changes and Conditions of the Ocular Apparatus as found in Imbecility, Epilepsy and General Paralysis of the Insane," by Charles A. Oliver, Philadelphia, Pa.

Discussion opened by E. J. Gardiner, Chicago, Ill.; and D. B. Smith, Cleveland, O.

"Treatment of Irido-dialysis from Contusion. Partial Iridocyclitis with or without Suture," by Eugene Smith, Detroit, Mich.

Voluntary Communications, Exhibition of Patients, Instruments, Pathological Specimens, etc.

Chairman, LEARTUS CONNOR, Detroit, Mich.
 Secretary, T. E. MURRELL, Little Rock, Ark.

Section of Laryngology and Otology.

President's Address, by Carl Seiler, Philadelphia.

"Surgery of Hard Palate Perforations," by A. G. Hobbs, Atlanta, Ga.

"Treatment of Enlarged Tonsils," by Chas. H. Knight, New York.

"Treatment of Follicular Tonsillitis," by A. B. Farnham, Milwaukee, Wis.

"Pharyngeal Tuberculosis, with Report of Cases," by T. V. Fitzpatrick, Cincinnati.

"An Effective Remedy in Diphtheria," by Jonathan Wright, Brooklyn, N. Y.

"Chronic Catarrhal Laryngitis," by M. Thrasher, San Francisco.

"Excision of Membrana Tympani," by C. H. Burnett, Philadelphia.

"Remarks on Excision of the Drum-head, Malleus and Incus, specially with reference to the method of employing his Instruments for the same," by Samuel Sexton, New York.

"Tinnitus Aurium," by Laurence Turnbull, Philadelphia.

"Myringoplasty," by C. W. Taugeman, Cincinnati, O.

"Nasal Cystoma with Specimen," by C. W. Richardson, Washington.

"Exostosis of Septum and Congenital Malformations," by Allen DeVilbiss, Toledo, O.

"Epistaxis: Its Etiology and Treatment," by S. J. Radcliffe, Washington, D. C.

"Report of Two Cases of Paralysis of Vocal Cords, and a Case of Lupus of the Nasal Mucosa," by E. E. Sattler, Cincinnati, O.

"Non-Topical Treatment of Throat and Ear Diseases," by E. Cutter, New York.

"Laryngismus due to a Congenital Valvular Formation of the Upper Orifice of the Larynx," by J. H. Bryan, Washington, D. C.

"Suppuration Occurring in Chronic Catarrh of the Middle Ear," by J. M. Ray, Louisville, Ky.

"Treatment of Ear Disease Following the Grippe," by Joseph V. Ricketts, Cincinnati, O.

"Some Results from Early Paracentesis in Middle Ear Catarrh," by J. E. Boylan, Cincinnati, O.

"Mouth Breathing not the Cause of Contracted Jaws and High Vaults," by Eugene S. Talbot, Chicago, Ill.

"The Relation of Tonsillitis to Rheumatism," by Hal Foster, Kansas City, Mo.

"The Influence of Nasal Obstruction on Phonation," by Max Thorner, Cincinnati, O.

(Papers, titles not yet announced, promised by A. W. McCoy, Philadelphia, and Frank H. Potter, Buffalo.)

CARL SEILER, Chairman,
 Philadelphia, Pa.

A. B. THRASHER, Secretary,
 Cincinnati, O.

Section of Diseases of Children.

"Lithæmia in Children," by William Pepper, Philadelphia.

"Prevention of Pulmonary Phthisis in the Adult by the Proper Treatment of the Lung Lesions of Childhood," by W. J. Stickler, Orange, N. J.

"The Pathological Aspect of Phimosis in Children," by C. N. Dixon-Jones, Brooklyn.

"Tetanus Neonatorum," by B. A. Waddington, Salem, N. J.

"The Prophylaxis and Treatment of Diphtheria," by J. Lewis Smith, New York.

"The Present Status of our Knowledge (including bacterial demonstrations) upon the Subject of Sterilized Milk," by Henry Koplik, New York.

"Cervical Adenitis," by B. T. Shimwell, Philadelphia.

"Sympathetic Convulsions in Children," by S. J. Radcliffe, Washington, D. C.

"Report of 30 cases of Diphtheria Treated by Sub-membraneous Injections, with Demonstration of Instruments," by A. Seibert, New York.

"Necrosis of the Maxillæ, with a Report of three Cases," by Walter B. Johnson, Paterson, N. J.

"Annus Pediatricus MDCCCXC," by Wm. Perry Watson, Jersey City, N. J.

"Remarks on the Child's Ear" by Samuel Sexton, New York.

"The Chemistry and Clinical Value of Sterilized Milk," by Professor A. R. Leeds and E. P. Davis, Philadelphia, Pa.

W. PERRY WATSON, Chairman, Jersey City N. J.

HOBART A. HARE, Secretary, Philadelphia, Pa.

Section of Dental and Oral Surgery.

Address of the Chairman of Section, by Eugene S. Talbot.

"Adenoid Growth," by W. H. Atkinson.

"Treatment of Fractures of the Maxillæ," by Wm. Carr.

"Genesis of Contour Fillings," Illustrated by Geo. S. Allan.

"The Teeth of Invertebrate Animals," by A. H. Thompson.

"Some practical points on the care of Instruments," Wm. H. Potter.

"Rheumatic and Gouty Diathesis as Manifested in Diseases of the Peridental Membrane," by John S. Marshall.

"Dental Infirmary Patients,—The Use and Abuse of Dental Charity," by Richard Grady.

"Growth of the Cementum," by R. R. Andrews.

"Remarks on Incipient Necrosis and Caries," by J. Williams.

"Choice of Therapeutic Filling Materials," by W. W. Allport.

"Thorough Dentistry vs. Partial Dental Surgery," by J. Y. Crawford.

"Pathological Conditions produced by Galvanic action between dissimilar Metals in the Mouth," by George W. Whitefield.

"Care of the Teeth," by J. Taft.

E. S. TALBOT, Chairman, Chicago, Ill.

HENRY W. MORGAN, Secretary, Nashville, Tenn.

Section of Neurology and Medical Jurisprudence.

Address by the Chairman of the Section: "Early Psychological Symptoms of Traumatic Brain Injuries," by T. D. Crothers, Hartford, Conn.

"Psychological Social Problems," by Daniel Clark, Toronto, Canada.

"Status Epilepticus," by Gros R. Trowbridge, and Chas. B. Mayberry, Danville, Pa.

"The Neuroses from a Demographic Point of View," by Irving C. Rosse, Washington, D. C.

"The Functional Degeneracy of the Brain," by J. T. Searcy, Tuscaloosa, Ala.

"Diagnosis of Traumatic Lesions in the Cerebro-Spinal Axis and the Detection of Malingering Referred to this Centre," by B. A. Watson, Jersey City, N. J.

"A Consideration of Traumatic Lesions of the Spine Resulting from Railroad and Other Injuries; Their Immediate and Remote Results, Etiology, Pathology and Diagnosis," by Thos. H. Mauley, New York, N. Y.

General discussion of "The Traumatic Neuroses with Especial Reference to Railway Injuries," to be opened by R. Harvey Reed, Mansfield, Ohio.

"Medico-Legal Investigation of Deaths by Violence in the State of Massachusetts," by Silas B. Presbury, Taunton, Mass.

"A Medico-Legal Study of Blood Corpuscles in Syphilis and Other Diseases," by Ephraim Cutler, New York, N. Y.

"On What Constitutes Reliable Evidence in Trials of Criminal Poisoning," by John Reese, Philadelphia, Pa.

"Hallucinations of the Sane," by David Inglis, Detroit, Mich.

"Personality as it Effects Inebriety," by T. L. Wright, Bellefontaine, O.

"Opium Inebriety, its Legal Recognition and Treatment," by W. S. Watson, Matteawan, N. Y.

"Ether Inebriety," by Norman Kerr, London, Eng.

"The Prevention of Opium Inebriety," by J. B. Mattison, Brooklyn, N. Y.

"The Treatment of Opium Neuroses," by Stephen Lett, Guelph, Canada.

"Suggestions in the Treatment of Spinal Scleroses," by D. R. Brower, Chicago, Ill.

"A Description of the Newly Discovered Virile (penile) Reflex," by C. H. Hughes, St. Louis, Mo.

"The Pathogeny of Chorea and Hysteria," by J. F. Barbour, Louisville, Ky.

"The Relation Between Occipital Cortical Disturbance and Amblyopia," by L. Bremer, St. Louis, Mo.

"Electro-Diagnosis in Brain and Nerve Injuries," by W. H. Willing, Philadelphia, Pa.

"Private Treatment of Insanity," by N. Roe Bradner, Philadelphia.

"Mental Treatment of Women in Child Birth," by J. A. Axtel, Hartford, Conn.

"Paretic Dementia and Life Insurance," by James G. Kiernan, Chicago, Ill.

"Studies of Cranial Degeneracy and Aberrant Maxillary Development in the Criminal Class," by G. Frank Lydston and E. S. Talbot, Chicago, Ill.

"On Neurotic Heredity in Disease and Injury," by J. O. Flaherty, Hartford, Conn.

"Description of a Tumor of the Pons, with Microscopic Specimens," by L. Hektoen, Chicago, Ill.

"Absence of Motive in the So-called Criminal Acts of the Inebriate," by Lewis D. Mason, Brooklyn, N. Y.

"What Can be Done for Over-Taxed Brain Workers to Prevent Inebriety?" by John Morris, Baltimore, Md.

"Does Modern Science Justify the Use of Alcohol in Therapeutics? If so in What Cases and When?" by E. Cheney, Boston, Mass.

"Therapeutic Action of Alcohol," by I. N. Quimby, Jersey City, N. J.

"Brain Disease from Opium," by R. Burkart, Bonn, Germany.

T. D. CROTHERS, M.D., Chairman,
HAROLD N. MOYER, M.D., Sec'y,
434 W. Adams street, Chicago.

Section of Dermatology and Syphilography.

(Copy not received.)

L. D. BULKLEY, Chairman,
New York, N. Y.

W. T. CORLETT, Secretary,
Cleveland, O.

Section of Materia Medica and Pharmacy.

(Copy not received.)

FRANK WOODBURY, Chairman,
Philadelphia, Pa.

W. G. EWING, Secretary,
Nashville, Tenn.

PLACES OF MEETING OF THE ASSOCIATION AND SECTIONS.

The following is a list of places of meeting of the Association and Sections:

General Sessions, Albaugh's Opera House.
Practice of Medicine and Physiology, Grand Army Hall.
Obstetrics and Diseases of Women, Masonic Temple.
Surgery and Anatomy, National Rifles Armory.
State Medicine, Columbian University.
Ophthalmology, Medical Department University of Georgetown.
Laryngology and Otology, Medical Department University of Georgetown.
Diseases of Children, Masonic Temple.
Oral and Dental Surgery, Medical Department Columbian University.
Medical Jurisprudence and Neurology, Grand Army Hall.
Dermatology and Syphilography, Grand Army Hall.
Materia Medica and Pharmacy, Grand Army Hall.

HOTELS.

The following named hotels have liberally contributed to the funds collected by the Committee of Arrangements, and deserve the patronage of our members: Arlington Hotel, Ebbitt House, Welcker's Hotel, Willard's Hotel, La Normandie, The Arno, The Shoreham, The Raudall, Metropolitan, Hamilton House, Hotel Johnson, Made's Hotel.

RAILROAD ARRANGEMENTS.

For railroad arrangements, etc., see advertisements pages 8, 11, 12 and 13.

SOCIETY PROCEEDINGS.

Omaha Medical Society.

The annual meeting of the Omaha Medical Society was held in the cafe of the Paxton hotel on the 14th inst. Officers were elected for the ensuing year as follows: President, Dr. B. F. Crummer; vice-president, Dr. D. C. Bryant; second vice-president, Dr. Harrold Gifford; secretary, Dr. J. P. Lord; treasurer, Dr. S. K. Spalding.

Dr. Charles Rosewater, who has acted as secretary the past year, asked to be relieved of the office, as the duties thereof had demanded more of his time than he could spare.

After the election the society listened to the reading of a paper on

SARCOMA OF THE CHOROID WITH TWO CASES,

by DR. D. C. BRYANT. The paper was discussed briefly by the other members of the society.

On motion of DR. GAXEN the delegates to the meeting of the American Medical Association, to be held at Washington, D.C., were instructed to invite the Association to meet in Omaha in 1892.

The Society also passed a resolution, offered by DR. GAXEN, protesting against the removal of THE JOURNAL OF THE AMERICAN MEDICAL AS-

SOCIATION, now published in Chicago, from the latter city to Washington, as eastern physicians now contemplate and urge. The secretary was instructed to send a copy of the resolutions to THE JOURNAL of the Association in Chicago.

SPECIAL CORRESPONDENCE.

Shall The Journal be Removed to Washington?

THE ACTION OF THE WAYNE CO., N. Y., MEDICAL SOCIETY.

To the Editor:—I send you a copy of the resolution passed, unanimously, by the Wayne Co. Medical Society at its quarterly meeting held today.

D. COLVIN, M.D.

Palmyra, Wayne Co., N. Y., April 14, 1891.

Resolved. That we deplore the agitation now going on relative to the removal of the office of publication of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, and we earnestly protest against any and every attempt to change the present locality of its publication.

A. A. YOUNG, M.D., Pres.
J. M. TURNER, M.D., Sec'y.

THE ACTION OF THE OMAHA MEDICAL SOCIETY.

To the Editor: At the meeting of the Omaha Medical Society held last Tuesday (April 14), the following resolution was passed unanimously:

Resolved. That the delegates from this Society to the American Medical Association be instructed to oppose the change of location of THE JOURNAL of the Association, and that a copy of this resolution be sent to THE JOURNAL.

C. ROSEWATER, M.D., Sec'y.

THE ACTION OF THE TENNESSEE STATE MEDICAL SOCIETY.

At the annual meeting of the Tennessee State Medical Society held at Nashville, Tenn., April 14, the following resolutions were unanimously adopted:

WHEREAS, There is now an effort being made in some quarters to remove THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from its present commodious, comfortable, and successful location at Chicago to an untried field at Washington; and

WHEREAS, We consider the matter an unwarranted venture, as we can neither see nor conceive of any valid reason for such a change; therefore be it

Resolved. That we, the Tennessee State Medical Society, do hereby enter our most hearty protest against the proposed change, and respectfully request the delegates who may be appointed from this body to use their every endeavor to prevent the consummation of so hazardous an experiment.

Resolved. also. That the Secretary of this Society be requested to forward to the Editor of THE JOURNAL the foregoing preamble and resolution.

W. K. SHEDDEN, M.D.
J. W. PENN, M.D., Pres.
D. E. NELSON, M.D., Sec'y.

THE ACTION OF THE HUNTINGDON COUNTY, PA., MEDICAL SOCIETY.

At the annual meeting of the Huntingdon County Medical Society, held at Huntingdon, Pa., on April 14, 1891, the following resolution was unanimously adopted:

Resolved. That it is the opinion of the Huntingdon County Medical Society that the office of publication of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION should not be removed from Chicago, Illinois, and that the delegates to the American Medical Association from the Huntingdon County Medical Society, of the State of Pennsylvania, are hereby instructed to vote against the removal of the office of publication. Attest,

GEO. C. BORST, Sec.

To the Editor:—By all means let THE JOURNAL remain at Chicago. It is a more central city. Washington is not the place for it.

FRANK D. GREEN, M.D.

Dallas, Tex.

NECROLOGY.

DR. JOSEPH H. WARREN, of Boston, died March 26, aged sixty. His father was the seventh son of General Warren, of Revolutionary fame. He was a medical director in General Casey's division, and of provisional troops during the last war as well as President Lincoln's medical attendant. He saw active service in the field before Yorktown, Va., and soon after was disabled while bearing special dispatches to Washington, and was obliged to resign. He was quite a traveler, traveled for health and pleasure, more than once serving as a delegate from the American Medical Association, of which he was vice-president in 1889 and 1890. He read papers before the British Medical Association and the French Academy of Medicine. He published in London a "Practical Treatise on Hernia," a second edition of which was issued in 1882 in America. He operated in Guy's Hospital, in London, and elsewhere, to demonstrate the method. He later published "A Plea for the Cure of Rupture," and has written very many monographs and medical papers, as well as general articles.

DR. LUTHER HALSEY GULICK, for nearly forty years a medical missionary to the islands of the Pacific, died at Springfield, Mass., on the 8th inst. His father was a missionary before him and brought up a family of seven, all of whom gave themselves to lives of self-denial in foreign lands. He was a graduate in medicine at the University of New York in 1850, and the following year went to Micronesia, with a pioneer party, destined there to spend twenty years. He was afterwards for many years a resident at Madrid, Spain. Nearly forty years of his life were passed in foreign lands.

MISCELLANY.

ROCKY MOUNTAIN MEDICAL ASSOCIATION.—The twentieth meeting of the Rocky Mountain Medical Association will be held in the parlors of the Arlington Hotel, Washington, D. C., on Wednesday evening, May 6, at 7:30 P.M.

JOHN MORRIS, M.D.

Secretary.

LETTERS RECEIVED.

Anamosa, Ia., Dr. E. Blakeslee.
Ann Arbor, Mich., Dr. W. J. Herdman, Dr. Heneage Gibbes, H. Soule.
Augusta, Me., Dr. A. G. Young.
Baltimore, Md., Dr. H. T. Revuolds.
Barry, Ill., Dr. G. O. Cromwell.
Birmingham, Ala., Dr. W. E. B. Davis.
Boston, Mass., Richard Hodgson, Dr. Roeth.
Chicago, Ill., C. S. Enck & Co., Dr. C. F. Stillman, Sharp & Smith, Dr. H. N. Moyer, Dr. N. Senn.
Cincinnati, O., J. R. Hawley, Dr. C. A. L. Reed.
Detroit, Mich., Dr. L. Connor, Dr. T. A. McGraw.
Dyersville, Ia., Dr. A. A. Mathews.
Ft. Smith, Ark., Dr. J. W. Bredlove.
Goldsboro, N. C., Dr. R. A. Smith.
Jackson, La., Dr. Irvine Robins.
Jacksonville, Ill., Ward Bros.
Keyville, Ga., Dr. T. A. Buxton.
Lincoln, Neb., Dr. Alice Huff Crandall.
Louisville, Ky., Dr. J. M. Mathews.
Lowell, Mass., Dr. M. G. Parker.
Marshalltown, Ia., Dr. H. L. Getz.
Mulberry, N. C., Dr. C. E. Warren.
Nashville, Tenn., Dr. S. F. Deanehof.
New Haven, Pa., Dr. G. W. Gallagher.
New York City, L. H. Crall, Dr. B. W. McLeod, Maltine Mfg. Co.
Philadelphia, J. B. Lippincott Co., Dr. Benjamin Lee.
Rochester, N. Y., Dr. E. H. Wolcott.
Rosby's Rock, W. Va., Dr. W. S. Howard.
St. Louis, Mo., Peacock Chemical Co., Battle & Co., Henry Bernd & Co., The Antikamnia Chemical Co., College of Physicians and Surgeons.
San Francisco, Cal., Dr. John C. Sandberg.
Troy, N. Y., Dr. William Watkins Seymour.
Wheelerburg, O., Dr. J. L. Taylor.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 11, 1891, to April 17, 1891.

Major Passmore Middleton, Surgeon, granted six months' leave of absence on surgeon's certificate of disability. By direction of the Acting Secretary of War. Par. 4, S. O. 81, A. G. O., Hdqrs. of the Army, April 11, 1891.

Capt. Henry P. Birmingham, Assistant Surgeon, leave of absence granted in S. O. 39, March 13, 1891, Dept. of the Columbia, is extended one month. By direction of the Acting Secretary of War. Par. 2, S. O. 81, A. G. O., Hdqrs. of the Army, Washington, April 10, 1891.

By direction of the Secretary of War, the following changes in the stations of medical officers are ordered: Capt. Marshall W. Wood, Asst. Surgeon, is relieved from duty at Ft. Meade, S. Dak., and will report in person to commanding officer, Ft. Preble, Me., for duty at that post, relieving Capt. William B. Davis, Asst. Surgeon.

Capt. Davis, on being relieved by Capt. Wood, will report in person to the commanding officer, Ft. Clark, Tex., for duty at that station. Par. 11, S. O. 83, A. G. O., Washington, April 15, 1891.

By direction of the Secretary of War, a board of medical officers, to consist of Major Henry McElderry, Surgeon; Capt. James C. Merrill, Asst. Surgeon; Capt. W. Fitzhugh Carter, Asst. Surgeon; is appointed to meet at West Point, N. Y., May 1, 1891, or as soon thereafter as practicable, to examine such cadets of the U. S. Military Academy as have been granted leave of absence until that date on account of physical disability, and to report upon their physical fitness to continue with the Corps of Cadets. Par. 2, S. O. 83, A. G. O., Washington, April 15, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending April 18, 1891.

Medical Director Grove S. Beardsley, appointed a delegate to represent Medical Dept. of the Navy at meeting of American Medical Association at Washington, D. C., May 5.

Surgeon James M. Flint, appointed a delegate to represent Medical Dept. of the Navy at meeting of American Medical Association at Washington, D. C., May 5.

P. A. Surgeon S. H. Griffith, detached from the U. S. S. "Dolphin," and granted one month's leave of absence from date of detachment.

THE Journal of the American Medical Association.

EDITED UNDER THE DIRECTION OF THE BOARD OF TRUSTEES.

PUBLISHED WEEKLY.

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CHICAGO, MAY 2, 1891.

No. 18.

LECTURES.

THE CHEMICAL FACTORS IN THE CAUSATION OF DISEASE.

A Course of Three Lectures delivered at the Post-Graduate Medical School of Chicago, March 27, 28, and 29, 1891.

BY VICTOR C. VAUGHAN, M.D., Ph.D.,
OF ANN ARBOR, MICH.

PROFESSOR OF HYGIENE AND PHYSIOLOGICAL CHEMISTRY AND DIRECTOR OF THE HYGIENIC LABORATORY IN MICHIGAN UNIVERSITY.

LECTURE I. GENERAL CONSIDERATIONS OF THE RELATION OF BACTERIAL POISONS TO THE INFECTIOUS DISEASES.

The majority of diseases may be grouped, from an etiological standpoint, into the following classes: 1. Traumatic; 2. Infectious; 3. Autogenous, and 4. Neurotic. It must be understood, however, that in many diseases the cause is not single, but multiple, and for this reason sharp lines of classification cannot be drawn. For instance, the greatest danger in those traumatic affections in which the traumatism itself does not cause death, lies in infection. The wound has simply provided a suitable point of entrance for the infecting agent. Indeed, the break in the continuity of tissue may be so slight that it is of import and danger only on account of the coincident infection. This is true in many cases of tetanus. Furthermore, an infectious disease, whether it originates in a traumatism or not, is markedly influenced by what we are pleased to call the idiosyncrasy of the patient, and by which we mean the peculiarities of tissue metabolism taking place in the individual at the time. A dozen men may be exposed alike to the same infection, and the infecting agent may find a suitable soil for its growth and development in two of these, while in the other ten this same agent meets with such adverse influences that it dies without producing any appreciable effect; or all may be infected, but with differences in degree, as is evidenced by variations in symptoms, in the length of time that the infecting agent continues to grow and develop in the body, and in the ultimate result. Every physician who has had experience in the treatment of typhoid fever, diphtheria, scarlet fever—or, in short, of any of the infectious diseases, will appreciate the importance of the personal equation

in his patients. That some neurotic affections originate in traumatism we know. That others of this class are largely due to malnutrition accompanied by improper metabolism or insufficient elimination; or, in other words, are to some extent autogenous, all believe. Understanding, then, that the above classification does not attempt a sharp and marked differentiation of the causes of disease, I wish to devote the first two of the three lectures, which you have kindly asked me to give, to a consideration of the chemical factors in the causation of the infectious, and of the traumatic, autogenous and neurotic diseases in so far as these are influenced by infection.

The science of bacteriology is now entering upon a new and promising era in its development. Heretofore, this science has been largely founded upon morphological studies. Bacteriologists have given their time and attention to the discovery of bacterial forms in the diseased organism, and to the observation of characteristics in structure and growth of different species of bacterial life. The question, do certain germs have a causal relation to certain diseases? having been settled in the affirmative, the next question which naturally arises is, In what way is this causal effect accomplished? How do germs prove harmful? To this question, a number of answers have been proposed. But as I have elsewhere¹ discussed these theories, I will not repeat them here. Suffice it to say that it is now generally admitted that the deleterious effects wrought by germs are due to chemical poisons elaborated by them during their growth. Granting this, it will be at once seen that the morphological study of germs, important as it is, becomes wholly inadequate in ascertaining their true relationship to the diseases with which they are associated. We must now study the physiology and the chemistry of germs, and until this is done we must remain ignorant of the true cause of disease, and so long as we remain ignorant of the cause, it cannot be expected that we shall discover scientific and successful methods of treatment. Suppose that our knowledge of the yeast plant was limited to its form and method of growth, of how little practical importance this knowledge would be. That the yeast plant requires a saccharine soil before it can grow, and that given such a soil

¹ Ptomaines and Leucomaines.

it produces carbonic acid gas and alcohol, are the most important and practical facts which have been ascertained in its study. Likewise, the conditions under which pathogenic germs multiply and the products which they elaborate in their multiplication must be ascertained before their true relationship to disease can be understood.

In saying that the morphological work upon which the science of bacteriology rests almost wholly is inadequate, I wish that it may be plainly understood that I am not offering any hostile criticism upon the great men who have done this work and who have formulated conclusions therefrom. The development of bacteriology has been in accordance with the natural laws governing the growth of all the biological sciences. The study of form naturally and necessarily precedes the study of function. The ornithologist finds a new species of bird. He first studies its shape and size, the color of its plumage, the form of its beak, the number and arrangement of the feathers of the tail and wing, the color of the eyes, etc. All this he can do with a single specimen, recognizing the fact, however, that variations, more or less marked, are likely to be found in other individuals. More time and wider opportunities of observation will be needed before he can tell where and when this bird is accustomed to build its nest, upon what insects, grains and berries, it feeds, with what other species of birds it lives in peace and with what it is at war. A much greater range of observation and study is necessary before the naturalist can tell how his newly discovered species would thrive if carried to a new climate, where it would be compelled to live upon unaccustomed food, to build its nest of strange material and to encounter new foes. I repeat that it is no discredit to the science nor to the men who have developed it, to say that the study of bacteriology has hitherto been almost wholly morphological; without the morphologist, the physiologist and the physiological chemist would not exist. The science having had for its support only morphological studies, the deductions and formulated statements arrived at by its students have been reached in accordance with the knowledge obtained from this source. But now, it being admitted that the causal relation between a given germ and a certain disease is dependent upon the chemical products of the growth of the germ, the fundamental lines of work must be altered in order to correspond with this new knowledge. Let us inquire into the changes, which the introduction of this new factor must make in our fundamental conceptions of the causal relation between germs and disease.

The four rules of Koch have been generally conceded to be sufficient to show that a given germ is the *sole* and sufficient cause of the disease with which that germ is associated. Briefly these rules are as follows:

1. The germ must be found in all cases of this disease.

2. The germ must be separated from other organisms and from all other matter found with it in the diseased animal.

3. The special bacterium thus freed from all foreign matter must, when properly introduced, produce the disease in healthy animals.

4. The microorganism must be found properly distributed in the animal in which the disease has been induced.

Let us give our special attention to the first of these rules for a few moments. What is meant by the statement that the special germ must be found in every case of the disease? How will A, pursuing his studies on the bacteriology of a given disease in America, decide whether or not a bacillus, which he finds, is identical with one which has been reported as invariably present in the same disease, by B, who has investigated an epidemic in Germany? What means are relied upon to prove the identity of these two organisms? The means which have been relied upon wholly are the form, size, reaction with staining reagents, manner of growth on the various nutrient media, and, in exceptional instances, correspondence in their effects upon the lower animals. In other words, with the exception of those instances in which the effects upon animals are tried, the characteristic, by which the germ causes the disease, is left wholly out of consideration.

Indeed, some of the most eminent bacteriologists have taught that in the identification of germs the reactions with staining agents and the appearances of the growths on the various nutritive media are of more importance than the observation of the effects upon animals. Thus, Flügge says:

"Inoculation experiments with both typhoid dejections and pure cultures of the Eberth bacillus have universally been without success. The few experiments in which a typhoid disease has followed inoculation or feeding have been made with impure material containing other active bacteria. It is known that a group of widely distributed organisms, which, however, are wholly different from the typhoid bacillus, have the power when injected subcutaneously or intravenously, of producing in animals death with marked swelling and ulceration of Peyer's patches. To these organisms undoubtedly are due the apparently positive results which some authors have supposed to be due to inoculation with the typhoid bacillus."

In other words, this eminent author teaches that although other germs may cause the essential symptoms and lesions of typhoid fever in the lower animals, they are not related to the germ found in the spleen of man after death from typhoid fever, because they do not react in the same manner with the aniline stains.

Bacteria cannot be classified so far as their causal relationship to diseases is concerned (and this is the most important knowledge to be gained from them) until we know the nature of the chemical poisons which they elaborate, for it is

by virtue of these poisons that they have any causal relationship to disease.

It is possible that two germs may be unlike in form, and yet they may produce poisons which are identical or those which are very similar in their effects upon man. One germ may be stained by Gram's method and another fail to be acted upon when so treated, but this does not prove that their chemical products are totally unlike.

We will suppose that in an epidemic of diphtheria A examines the membrane from a hundred, or we might as well suppose, a thousand children and finds a characteristic, well-marked, easily recognized bacillus in all. He isolates this organism and obtains it in pure culture. He inoculates animals and these manifest all the signs together with the appearance of the characteristic membrane of diphtheria, and in these animals he finds his bacillus growing as in the throats of the children. All of the rules of Koch have been complied with. Has A demonstrated that his bacillus is the *sole* cause of diphtheria? No. He has shown that his bacillus is *a* cause of diphtheria, but he has not proven that there may not be other germs, wholly different from his in form and size, which may also cause diphtheria. The most which can be proven by Koch's rules is that a given germ is *a* cause of the disease. They do not show, as most bacteriologists would have us believe, that this germ is the *sole* cause of the disease.

To illustrate, we will suppose that a botanist in visiting Arabia should find a tree producing a berry, the coffee berry, which when properly prepared and taken into the system produces certain effects. These effects are due to the alkaloid caffeine, and our supposed discoverer finds that they invariably follow the drinking of a decoction of these berries. Would he be justified in concluding that the coffee-tree is the only plant in the world capable of producing these supposed characteristic effects? Should he reach such a conclusion, the fact that it is not warranted would be shown by a study of the tea-plant in China and the guarana of South America.

What is meant in the first of Koch's rules by the statement that the germ must be present in all cases of the disease? In answering this question I will give two specific illustrations showing the manner in which eminent bacteriologists have applied this rule. This is well shown in the bacteriological literature of typhoid fever and diphtheria.

Eberth found the bacillus, which is now generally considered by bacteriologists as the sole cause of typhoid fever, in eighteen out of forty cases. In the examination of twenty-eight bodies dead from typhoid fever Gafky found the Eberth germ in twenty-six; Fränkel and Simmonds reported in twenty-five out of twenty-nine cases; Seitz in twenty-two out of twenty-four; Rietsch in thirty-

five out of thirty-six; and Kowalski found it present in each of twenty-nine cases. From these and similar reports bacteriologists have concluded that this germ is not only *a* cause, but the *sole* cause of typhoid fever. Are they justified scientifically in this conclusion? Have they any right to say that there is no other germ in existence which may cause typhoid fever? The speaker has shown that there are at least two other germs which induce the same symptoms in a more intensified form in the lower animals, and has isolated and studied the chemical poisons of these germs, and recently Babes has shown that in the examination of twelve persons who died at Bucharest of typhoid the Eberth germ was not present, and that an organism giving quite different reactions was present.

Löffler and other German investigators have shown the presence of a bacillus in the majority, not in all, of the cases of diphtheria which they have studied, and they again conclude that this bacillus is not only *a* cause, but the *sole* cause of the disease. In a large number of cases in New York, Prudden failed to find the Löffler bacillus, but did find a wholly different organism. No one acquainted with Prudden's work will question the accuracy and care with which it was done. It is true that the chemical poisons of the Löffler bacillus have been studied, and no one can doubt that it is a cause of diphtheria, but it may be found that the streptococcus of Prudden is capable of elaborating a similar poison.

The moment that it is granted that the real poison of the disease is chemical in character, it becomes evident that no one is justified in saying that one germ is the sole source of such a poison. Such a statement would be as much unwarranted as one that the coffee-tree is the sole source of caffeine, or that the *strychnos ignatii* is the only species of the natural order *loganiaceæ* which produces a convulsive poison. In other words, the specific cause of a given disease is not to be determined wholly by the morphology of the germ found associated with that disease in a given epidemic, but by the character of the chemical poison which is the true *materies morbi*.

I think that we are justified in concluding that in those diseases in which the four rules of Koch have been complied with, the germ is *a* cause of the disease, but our range of observation must be much wider than it now is, before we can say that the given germ is the *only* cause of the disease. *It may be found, and I think this highly probable, that those few infectious diseases, such as anthrax and tuberculosis, which have such well-marked typical clinical histories, are due to equally well-marked and morphologically distinct microorganisms which can be recognized by microscopical study alone; but I do not expect that this will prove to be true in diseases showing such wide variations in symptoms as is done by typhoid fever and cholera infantum. In*

fact I am convinced that these last mentioned diseases may and do result from any one of a number of bacteria which are in form, size, methods of growth and reactions towards staining reagents, quite distinct one from the other, but which produce poisons similar in their effects.

That you may be convinced of the truth of the foregoing statements I give a few specific instances which will confirm them, and demonstrate that in their causal relation to disease, germs cannot be classified from a study of the form, size, methods of growth and reactions with staining reagents.

Typhoid Fever.—Eberth lays special stress upon the fact that his germ does not take the ordinary stains readily, and says that it is not colored by Bismark-brown and hæmotoxylin, and only slightly by the other ordinary stains; but what is the verdict of others on this point? In the paper in which he calls attention to the fact that he has photographed the short bacillus before Eberth had published his discovery, Koch says: "Eberth states that these short bacilli have but slight tendency to take stains. The photograph here given shows, to the contrary, that in taking stains these bacilli are but slightly inferior to other bacteria." Gaffky states that the best coloring agent is methylen-blue, but that the bacilli are stained very well with methyl-violet, gentian-violet, Bismark-brown and fuchsin, and less well by hæmotoxylin. Coats had no difficulty in staining with Bismark-brown. Meyer had the same difficulty as Eberth in staining; but Friedlander found that the bacilli in sections from the spleen stained intensely. In view of this variety of statement, can any one claim that these men were working with a germ which can be distinguished from others by its tinctorial properties?

Tetanus.—The tetanus germ of Kitasato and that of Tizzoni and Cattani are known to be quite distinct. Cultures of the former in bouillon are virulent, while those of the latter in the same medium are inert. Not only are these two organisms morphologically and biologically different, but their poisons are chemically unlike. Brieger and Fränkel precipitated the poisonous albumin of the germ of Kitasato with alcohol, but this reagent renders the poison of the Italian germ inert. Notwithstanding this difference, however, both microorganisms and their chemical products produce tetanic convulsions and death in the lower animals. We must, therefore, admit that there are at least two distinct germs, each of which is capable of causing tetanus, and how many other bacteria with like properties there may be no one can tell.

The Summer Diarrhæas of Infancy.—In this class of diseases all attempts to find a morphologically specific germ have failed. The labors of Booker in this country, and of Escherich in Germany, have shown that no one species or variety is constantly present. No less than thirty dis-

tinct germs have been obtained from the bowels and feces of children suffering from the summer diarrhæas. A germ which is frequently present one season will not be found at all the next. Are we to conclude from this failure to comply with the first of Koch's rules that the summer diarrhæas of infancy are not due to microorganisms? Certainly not; especially in view of the fact that Baginsky and Stadthagen have shown that the bacillus discovered by Baginsky produces a chemical poison which induces diarrhæa in the lower animals, and I have shown that at least three of Booker's bacteria produce poisons which have similar effects. To the contrary, we are justified in concluding that the diarrhæa may be due to any one or more of a number of germs which differ from one another sufficiently morphologically to be classified as distinct species. The similarity among these bacteria will not be discovered by a study of their size, form and reactions with staining reagents, but by a study of their chemical poisons, the agents by virtue of which they cause the disease. At the meeting of the American Medical Association at Newport, in 1889, I proposed, in a paper on the etiology of typhoid fever, that in those cases in which the lower animals are not available on account of their insusceptibility, before a given germ can be considered a cause of a disease, it must be shown that that germ can produce chemical poisons which will induce in the lower animals in an acute form the characteristic symptoms of the disease. That this rule would be a wise one I have become, even more strongly than I was at that time, convinced.

In the little volume on "Ptomaines and Leucomaines," written by Novy and myself and published in 1888, I gave the following definition of an infectious disease: "An infectious disease arises when a specific, pathogenic microorganism, having gained admittance to the body and having found the conditions favorable, grows and multiplies, and in so doing elaborates a chemical poison which induces its characteristic effects."

It should be remembered that this definition was written at a time when the importance of the chemical products of bacterial growth was not generally recognized. Indeed, at that time bacteriologists quite universally held to the mechanical interference theory, and more than a year later so good an authority as Welch, of Baltimore, stated that a knowledge of the chemical products of bacteria was interesting but not essential to a belief in the causative agency of a microorganism, and he went still further, inasmuch as he claimed that the successful inoculation of animals is not necessary in order to prove the causal relationship of a certain germ to a given disease. Now, it is generally conceded that a successful inoculation is a proof of the formation of deleterious chemical products, and in

case successful inoculation cannot be obtained on account of the insusceptibility of the lower animals, the demonstration of the elaboration of chemical poisons is deemed not only interesting but important. For instance, the strongest proof that the cholera bacillus of Koch has a causal relation to Asiatic cholera has been furnished by the study of its chemical products, and similar studies of many of the other infectious diseases have yielded results which are of both interest and importance, as I shall endeavor to show in the next lecture.

The only modification which I desire to make in the above definition of an infectious disease consists of an elaboration of what is meant by a "specific" microorganism. The specific nature of a germ is to be determined not by its size, form, growth on nutritive media and reactions with staining reagents, all of which properties are more or less variable with the conditions under which the germ has been grown, but upon its capability of producing within the body deleterious substances.

The study of the chemical factors in the causation of the infectious diseases opens up for us a field in which much work must be done. Let us attempt a statement of the nature of some of the researches that must be carried out along this line.

In the first place we must ascertain what germs are toxicogenic. This would necessitate a chemical study of all kinds of bacteria, both the pathogenic and the non-pathogenic. Every fact learned in this investigation will not have its practical application in medicine, but will have its scientific value, and many will most probably be of more or less direct service to man. There is a vast field here for careful scientific work, and I should be glad to see these researches carried out largely in our own country.

Secondly, it must be determined under what conditions these germs are toxicogenic. It is not at all probable that all those bacteria which are capable of producing poisons when grown on dead material outside of the body are also capable of multiplication and the production of the same substances when under the influence of the various secretions of the body. Some bacteria are destroyed by a normal gastric juice within a short time, while others are not. The conditions of life and growth are different when the infecting agent is introduced into the blood from what they are when infection occurs by the way of the alimentary canal. This is well recognized in the two forms of anthrax, one of which arises from inoculation through a wound and the other by way of the intestines. A preventive treatment which is efficient in the one is of no service in the other. Then again, we are to study those conditions of the blood and other fluids of the body, which are especially unfavorable to the successful

implantation or the continued existence of an infectious disease.

Thirdly, the chemical properties and the physiological action of these poisons will demand careful attention. Some are especially depressing in their action upon the heart, others seem to manifest their energy upon the central nervous system, while others still act like true gastro-intestinal irritants. In the study of the toxicological effects of these bacterial poisons every method of investigation known in the most advanced physiological work must be employed. The action of these agents on the heart, the brain, the spinal cord, etc., must be thoroughly studied.

After all this has been done we shall certainly advance in our knowledge of the treatment of the infectious diseases. The morphological study of bacteriology has been of inestimable value to us in the prevention of the infectious diseases. It has rendered the investigation of disinfectants both possible and imperative, and by the knowledge thus gained yellow fever has repeatedly, and Asiatic cholera in one instance at least, been kept from our shores. Epidemics of small-pox, diphtheria and scarlet fever have been arrested. In this way scientific medicine has been advanced, and such an advance is never made without great benefit to mankind in general. Moreover, anti-septic surgery, which had already been inaugurated by the genius of Lister, has received the scientific support which was necessary to its constant, universal and correct employment. All of these benefits, and possibly more, which do not occur to me at this time, have been accomplished, and to Pasteur, Koch and the host of others who have rendered this possible, we should be and are grateful. But what can those of us who are engaged in the treatment of the infectious diseases say of the present condition of the practice of medicine? As one of this number I am forced to admit that my successes are few and my failures many. Are we satisfied with the treatment which we now employ for tuberculosis, diphtheria, scarlet fever, typhoid fever and the other internal infectious diseases? Do we treat these diseases with much more success than our fathers did? They prescribed for their consumptive patient liberal food, cod-liver oil and all the open air exercise possible. They never carried a Bergeron hydrogen-sulphide bag, used a Weigert hot air oven, or injected Koch's lymph; but can we say that our successes are markedly more numerous than theirs? Has the knowledge of germs aided us in the treatment of these diseases? Do we today possess one germicidal agent which will destroy the bacilli of typhoid fever in the spleen of our patient and at the same time do no injury to the patient himself?

For myself I am perfectly willing to acknowledge that I am not satisfied with my success in the treatment of the infectious diseases, and it

seems to me that careful scientific study along the lines which we have been following to-night holds out sufficient encouragement to lead us to further study. Could we treat morphine poisoning before we knew anything of the chemical properties or the physiological and toxicological effects of this alkaloid? Can we counteract or antidote the typhoid poison, before we know anything of its nature or its manner of action? I do not mean to imply that it is the duty of each of us to become a chemist or to undertake physiological research. We need as much as anything else a closer study of these subjects at the bedside. The scientific methods of the laboratory should be carried into the wards of the hospital. The physiologist keeps the dog upon which he is making some important study under his own trained eye and trusts no one else with the observations. The patient with typhoid fever in the hospital ward is seen by his medical attendant once or twice during the day. The remainder of the time all observations must be made and records taken by a nurse, who is not only devoid of scientific training, but has so much work to do that but little time can be given to the individual patient. There is work enough in the study of the poisons of disease to employ the chemist, physiologist and clinician, and the greatest good can be secured only by the combined labors of all.

You may think it strange that, enthusiastic as I am about the importance of the study of the bacterial poisons, I have said nothing about the therapeutical uses to which some of them may be put, as evidenced by the introduction by Koch of his so-called lymph or tuberculin as a cure for tuberculosis. There may be valuable curative agents discovered among the products of bacterial activity, but I have never believed that a disease will be cured by the administration of the very poison which is causing the disease. I say I have never believed this, but I am open to conviction on this point, and take much interest in a study of the results now being reported from all parts of the world, as well as in my own observation of the effects of the proposed cure. So far, however, I have seen no sufficient reason for any change in my belief on this point.

(To be continued.)

A PORTRAIT OF VIRCHOW.—The famous portrait painter Franz Lenbach of Munich is painting a portrait of Virchow for the Berlin Medical Society. It will be unveiled at a festal meeting of the Society, and presented to the Langenbeck House. There it will hang beside a portrait of Langenbeck in the hall destined for the meetings of the medical societies of Berlin, for congress assemblies, festal ceremonies, etc.

ORIGINAL ARTICLES.

THE EFFECT OF ARTERIO-SCLEROSIS UPON THE CENTRAL NERVOUS SYSTEM.

Read before the Clinical Society of Maryland, January 16, 1901.

BY GEORGE J. PRESTON, M.D.,

PROFESSOR OF PHYSIOLOGY AND DISEASES OF THE NERVOUS SYSTEM, COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.

In order to appreciate fully the significance of disease of the blood vessels of the central nervous system, it is necessary to keep in mind the general plan of the blood supply of the brain and cord. If we disregard a few meningeal branches from other arteries, the brain is supplied by four trunks: the two internal carotids and the two vertebrals. It is not necessary to mention the well known arrangement of these arteries at the base of the brain into the circle of Willis. The blood-vessels that supply the brain are peculiar for their long and tortuous course through bony canals, and the fact that they are unaccompanied by veins. After having formed the circle of Willis they send branches to supply the different regions of the cortex, and other branches which penetrate the substance of the brain and supply internal parts. These latter branches while they are small are very important, because they supply the basal ganglia and internal capsule. They do not communicate with each other or with the cortical system of vessels and hence are known as end arteries, or what is a better designation, as terminal arteries. The term, end artery, is not a very good one, as confusion may sometimes arise between this and the pathological term, endarteritis.

The branches which supply the cortex are perhaps to a certain extent terminal arteries, though anastomoses of the larger branches take place in the *pia mater*. From these branches ramifying in the *pia mater*, arterioles pass into the cortex perpendicularly to the convolutions. These arterioles may be divided into two groups. The short or nutrient arterioles which form a network in the gray matter of the cortex, and the long or medullary arterioles which pass deep down into the white matter with little or no communication with each other, with the short arteries or the basal branches.

The significance of this peculiar mode of distribution of the arteries of the brain becomes at once apparent when we consider the effects of plugging by thrombus or embolus of a vessel which has no free anastomosis.

The spinal cord derives its blood supply from the vertebral, intercostal, lumbar and sacral arteries. Each vertebral gives off a branch, which branches unite and form the anterior spinal artery which runs in the anterior median fissure the

whole length of the cord. From this artery branches pass deeply into the fissure and along the anterior nerve roots. The branches which penetrate the fissure pass on into the gray matter of the anterior horns, where they form a rich network. The vertebrals also give off posterior spinal arteries which do not unite as do the anterior vessels, but pass down the posterior aspect of the cord, one on either side, near the attachments of the posterior nerve roots; these branches are united however, by numerous anastomoses, and send small twigs towards the posterior median fissure. From the periphery of the cord numerous branches pass into its substance, some of them reaching the gray matter. James Ross has shown that the arteries which supply the different areas of the cord are fairly constant and regular in their distribution.

The minute anatomy of the blood vessels of the central nervous system presents certain important peculiarities. The vessels are not as closely applied to the tissue in which they ramify as are the vessels in many other parts of the body, but lie in little canals known as the peri-vascular spaces. Most histologists agree that these spaces are lined by a delicate membrane, and communicate with the spaces in which lie the cells. They are undoubtedly lymph spaces, containing lymph corpuscles, and form the only lymphatic system really that the central nervous system possesses. If we examine a fresh or carefully prepared section of the brain we find that the structure of the arteries differs somewhat from the structure of the arteries elsewhere in the body. The coats are in the main the same, but between the *muscularis* and *adventitia* we find a space known as the adventitial space. The two coats are not in actual contact. This space may be regarded as a lymph channel. The veins possess a somewhat similar arrangement.

It was formerly supposed that arterio sclerosis, and particularly its later stage, atheroma was not of common occurrence in the arteries of the central nervous system. More recent investigation, however, has shown that this condition is frequently met with. It is to be noted, however, that one may fail to find any marked changes in the blood vessels of the brain and cord of subjects in whom there existed marked sclerosis elsewhere, and the contrary is perhaps sometimes seen, namely arterioma occurring in the vessels of the brain and cord while it is absent or not well marked in the general arterial system. The alteration in structure of the vessels of the brain and cord, affected with sclerosis does not differ materially from that found in the vessels elsewhere, and which was so clearly described by Dr. Welch at a former meeting of this Society. The fact that the vessels of the central nervous system lie in lymph spaces and are not supported by the surrounding tissue, and also the fact of

the space which exists between the *media* and *adventitia*, the adventitial space to which attention has been directed, offers special facilities for these vessels to alter their shape and become tortuous under high pressure, and greatly favors the formation of aneurism. The basal arteries and the large branches derived from them present thickenings, tortuosities, dilatations, aneurisms, and the microscopic changes which are familiar. If a section of the brain be made, the small arteries can be seen sticking up like bristles, with gaping mouths. If the small sized twigs be gently pulled out they will often show the most remarkable tortuosities. Irregularities in the size of the vessels, dilatations and constrictions occurring at frequent intervals in the course of the same vessel are commonly met with. Where the branches are given off there is often a marked dilatation. Small aneurisms, both fusiform and sacular are frequent and characteristic. The mode of formation of these miliary aneurisms, and their bearing upon intracranial hæmorrhage, has given rise to some difference of opinion. Charcot and Bouchard, who first drew attention to this curious and important phenomenon, thought that the aneurisms were the result of an arterio-sclerosis, which began as a peri arteritis. That is to say that the inflammatory process began outside the artery. Cornil and Ranvier held that the aneurisms were the results of an endarteritis and a peri arteritis combined. In all probability the disease begins in the cerebral arteries as elsewhere by a degeneration of the middle coat, as has been shown by Thoma and others.

This condition of miliary aneurism is rarely met with in the spinal cord. Most authorities agree with Charcot in saying that this peculiar formation of small aneurisms in the vessels of the brain, is the underlying cause of most if not all cases of ordinary intracranial hæmorrhage. It might perhaps seem to be stating the case too strongly to say that miliary aneurism is always to be found in apoplexy, but it certainly is the rule, though exceptions do occur. Whenever they have been systematically sought for in persons dying from hæmorrhage of the brain, they have been found, in nearly all cases. It requires some care and a good deal of patient work to detect their presence at times, for while they may exist in one case in great numbers, another case will show perhaps only three or four after the most careful search. Then, as has been noted, we may have numerous miliary aneurisms, without marked atheroma of the vessels elsewhere. Twenty-five per cent. of Charcot's cases in which miliary aneurism was marked in the cerebral vessels showed no condition of atheroma of the arteries generally. It is very possible, then, that observers, not noting any atheroma in other vessels, have not been led to look for it in the brain, and so the frequency of aneurism, and consequent-

ly of arterio-sclerosis, has been underestimated by some authorities. On the other hand, there may be marked atheroma of other arteries and no miliary aneurisms found in the brain. This was illustrated in a case recently examined, in which the aorta showed large plaques of atheroma, and yet the most careful investigation failed to reveal a single miliary aneurism.

Next in importance to the formation of aneurism comes the great tendency to the formation, in the diseased vessels, of thrombi and resulting emboli. The roughened, diseased *intima* offers the most favorable conditions for thrombus, and this liability is enhanced by the fact that we may have local disturbances of the circulation, as slowing of the blood stream by a constricted vessel. The significance of thrombosis of the cerebral vessels becomes at once apparent when we consider the fact already alluded to, that the arteries passing up from the large trunks at the base of the brain to the basal ganglia and internal capsule, as well as the cortical system, are for the most part terminal arteries, and hence plugging of these vessels means softening of the area of the brain to which they are distributed, since no provision exists for collateral circulation.

Another pathological condition which is met with in sclerosis of the arteries of the brain, and which has perhaps some clinical significance, is the great tortuosity and unequal calibre of the vessels. In following the course of the smaller arteries, under the microscope, observing now a marked dilatation, now a narrowing almost to obliteration, and everywhere tortuosity, one cannot help thinking that these marked changes in the lumen and direction of the vessel must produce decided irregularity in the blood supply of the area to which it is distributed. It must be borne in mind that many of the brain centres are in constant activity, and hence must have a regular and uninterrupted supply of blood.

When we come to consider the effect of arterio-sclerosis upon the spinal cord, we have far fewer data from which to draw conclusions than in the case of the brain. Miliary aneurisms of the vessels of the cord, while they have been found, are rare. Thrombosis and embolism sometimes occur, and hemorrhage is now and then met with which would seem to have been dependent upon disease of the vessels. It seems to me that we might with some show of plausibility attribute certain degenerative cord lesions to arterio-sclerosis: We have seen that the arteries of the cord are distributed with a certain degree of regularity to the different columns of fibres. Now in conditions of sclerosis of the columns of the cord we commonly meet with a very decided increase of the neuroglia or connective tissue element. Such outgrowth produces compression and subsequent degeneration of the nerve elements. Now it seems to me that we might suppose, without

forcing the facts too much, that the hyperplasia of connective tissue in the sclerosed vessels, extending into, or beginning in the *adventitia*, might encroach upon and compress the nerve elements, or set up a connective tissue outgrowth around the blood-vessel, which would extend into the substance of the cord. Again, it is supposable that in conditions of arterio-sclerosis the blood supply to the connective tissue elements of the cord, the neuroglia, being irregular or even markedly deficient, an irritation might be produced which might lead to outgrowth of connective tissue and consequent damage to the nerve elements proper. The causes usually assigned as the most important in the production of sclerosis of the columns of the cord, such as alcoholism, syphilis, exposure to cold and wet, over-exertion, great mental excitement and the like, are many of them just the factors which are the most potent in the production of arterio-fibrosis. There been no observations that I am aware of bearing upon this point, either for or against the theory proposed.

It must be borne in mind that we may have a condition in the veins similar to that found in the arteries. This point has been clearly brought out by Spillmann, of Nancy, quoting Thiébaud, Thoma, Huchard, Borel and others. Of course this fact has not as much significance in considering the effect of atheroma in the central nervous system as in other parts of the body, owing to the peculiar arrangement of the veins in the former case.

One fact strikes us with peculiar force when we consider the clinical bearing of arterio-sclerosis and atheroma, and that is that we must distinguish between the condition occurring in the young and in those in early middle life, and the same condition occurring in the old. In aged people it would seem to be a part of the general decay of the tissues. Add to the general tendency to fatty degeneration, an enfeebled circulation, and we have the conditions most favorable to the deposit of the lime salts. And yet the system seems to adapt itself so perfectly to the gradual change that we may have the most marked conditions of atheroma with no attending symptoms other than those incident upon old age. How far the general symptoms of senility may be due to this change in the blood-vessels it is not easy to say. That this condition of the blood-vessels, causing irregularities of the circulation and impairment of nutrition, is an important factor in the production of many of the symptoms of senility, is almost certain.

It is not in the aged, however, but in the individual in middle life who has grown old before his time, old in all but years, that we see most clearly the evil effects of atheroma. The tissues of this latter individual have not become accustomed to the changed condition of the blood vessels, and have not adapted themselves to the irregular or deficient blood supply.

The study of the effects of arterio-sclerosis on the central nervous system resolves itself into the study of, first, senility or physiological decay, a subject of great interest and wide range, and which can be touched upon only very lightly in this paper; secondly, the effects of atheroma in the middle-aged; the study of premature old age, of age as a disease, and finally the predisposition to hæmorrhage in the brain and cord of atheromatous subjects, and the possible effect of the condition upon certain chronic degenerations of the cord.

I have noted the symptoms in about fifty individuals at Bay View Asylum, in whom atheroma was more or less well-marked, and have been surprised to find what a very high degree of arterial deformity may exist without producing any very marked symptoms. The following summary from the careful tables which were kindly prepared for me by Dr. Sanger will illustrate this point.

	p. c.
Total number of persons examined	50
Age of youngest person examined	43
Age of oldest person examined	92
Average age of persons examined	65.5
Number of males examined	3
Number of females examined	47
Number of blacks examined	17
Number of whites examined	33
Number showing specific history	7
Number showing non-specific history	43
Number showing uncertain history	20
Number of intemperate persons	25
Number of temperate persons	25
Number whose arteries present no sclerosis at wrists	43
Number whose arteries present slight sclerosis at wrists	21
Number whose arteries present marked sclerosis at wrists	15
Number whose temporal arteries are not marked	13
Number whose temporal arteries are slightly marked	25
Number whose temporal arteries are marked	12
Number in which heart lesions were found	10
Number in which albumen was found in urine	6
Number showing mental impairment	16
Number of hemiplegias	12

Of course it is not intended to draw any very definite conclusions from such a comparatively small number of cases, but they are simply used by way of illustration. The atrophy and actual loss of brain weight in old persons is perhaps due in part to the faulty blood supply, which is consequent upon atheroma. While one would hardly like to say that atheroma of the arteries is always present in old persons, still the great frequency with which it occurs, makes it a physiological rather than a pathological degeneration. It is to this decay, this alteration of the blood supply to the central nervous system, this lack of nutrition to the centers, that we must attribute the ordinary mental changes of old age. The blood supply to the centres is imperfect, causing perhaps alteration in the cells, innervation is enfeebled and all the mental processes are slow. Often we see something more than a mild decay of the mental faculties. The various forms of senile dementia, present pictures in which the physiological process of decay has been in part replaced by a more decided degeneration, a pathological process. We may have conditions of dementia with hypochondriacal delusions, with total loss

of memory, with almost entire abolition of the intellectual faculties, dependent largely if not entirely upon an atheromatous condition of the vessels and the changes in the brain incident upon such condition. It is not this state of gradual senile decay, dependent though it is upon atheroma that especially engages our attention; it is this same condition of atheroma which has overstepped the physiological bounds. That is to say a condition of atheroma in persons whose age does not warrant such a change, or as noted above, symptoms other than those of mere senility, occurring in elderly people. In persons who are not yet old, but whose arteries are atheromatous, we often see very marked mental changes. The general disposition of the individual often undergoes some decided change: he becomes irritable, excitable, hysterical, or a condition of hypochondria with apathy supervenes. The mental symptoms peculiar to old age are intensified. The picture is not unlike that of beginning general paralysis before the advent of delusions. There is an inaptitude for any kind of mental exertion, and the memory becomes very bad. Such symptoms as these are frequently met with and are commonly ascribed to the effect of the diseased condition of other organs than the brain, notably to the effect of the lesion which often coexists in the kidney.

Bearing in mind the condition of the arteries in the brain, and the consequent derangement of the circulation, it is easy to conceive how such symptoms as these detailed are produced. The small arteries are often narrowed almost to the point of obliteration, and any increased vaso constrictor action will temporarily close them.

One of the most pathognomonic symptoms of arterio-sclerosis of the vessels of the brain is transient paralysis. These attacks are sometimes very frequent and well marked. They come on with the suddenness of embolism, or again gradually like the formation of a thrombus, last from a few minutes to a few hours and are entirely recovered from. Such a person nearly always dies from hæmorrhage or softening as the result of the rupture or permanent closure of the vessel. Due to the same cause, narrowing or temporary closure of the small arteries are severe headache and vertigo. This last symptom has been carefully investigated recently by Grasset who finds in addition to simple vertigo, epileptiform vertigo and attacks of syncope. The most important change, however, in the vessels is the formation of miliary aneurisms, which has been described, for it is to this condition that most cases of simple apoplexy are due. Given this condition of miliary aneurism, it is easy to see how with high arterial tension present the conditions for hæmorrhage are most favorable. The fact that arterio-sclerosis is undoubtedly as has been shown, the underlying cause of miliary aneurism, and also that the same condition favors the production of thrombosis and

embolism, gives the subject great importance.

The limits of this paper do not permit any discussion of the subjects of intracranial hæmorrhage and thrombosis and embolism. Miliary aneurism, as has been noted, is very infrequent in the vessels of the cord, and as non-traumatic hæmorrhage into the cord is a comparatively rare event, this fact might be adduced to strengthen the position taken, that these small aneurisms are always, practically, the precursors of hæmorrhage in the brain. Of course there are other reasons why hæmorrhages into the cord are infrequent, as the length, size and mode of distribution of the spinal vessels. It is doubtful whether any symptoms can be ascribed to changes in the blood-vessels of the cord, unless we include anæmia and hyperæmia, which can hardly be said to be conditions which can be recognized clinically.

The purely theoretical suggestion mentioned in the first part of this paper, that perhaps atheroma of the vessels of the cord may be a factor in the production of sclerotic degeneration of the fibres in the manner indicated, may, if confirmed by any facts, prove useful in clearing up our somewhat indistinct ideas of the production of these lesions.

There are, as we have seen, no very pathognomonic symptoms of arterio sclerosis of the vessels of the central nervous system. The diagnosis must rest upon the general symptoms that have been outlined. When a patient presents certain of these symptoms, and shows sclerosis of the vessels that can be examined, we can pronounce with some degree of certainty upon the probable condition of the arteries of the brain. The ophthalmoscope sometimes, though by no means always, shows us a condition of sclerosis in atheroma of the vessels of the retina. Raehlmann found changes in the vessels in forty-four out of ninety cases examined, or nearly fifty per cent. He describes a certain hazy appearance of the vessels, looking as if a thin veil were stretched over them. He noted dilatations and constrictions in the vessels and in two cases aneurism, and found the veins affected also, in twenty-six per cent. of the cases.

One can say little as to treatment, other than the general rules that are laid down for the treatment of the general condition. It is necessary for patients who have a high degree of arterio-sclerosis to avoid violent sudden exertion for obvious reasons. At the same time systematic, regular exercise in the open air, with hill climbing in suitable cases, is of great value. Avoidance of excessive amounts of liquids is certainly an important point. Large quantities of water cannot but be injurious, by overfilling, or at least greatly increasing the total quantity of fluid in vessels that are already embarrassed. The diet should be light and nutritious. An occasional saline purge is beneficial, such as concentrated

magnesia sulph. The bromides are often of decided value in quieting the cerebral circulation, as are also warm baths. Nitro-glycerine is frequently of value in these cases, especially when we have a sudden raising of arterial tension and the danger of intracranial hæmorrhage imminent. In these acute conditions an ice cap to the head is valuable.

The above imperfect sketch of arterio-sclerosis of the central nervous system will, I trust, aid in directing attention to the importance of the subject, and show the necessity of more careful clinical work to make the picture complete.

9 E. Townsend St.

REPORT ON THE OPHTHALMOSCOPIC EXAMINATION OF DR. PRESTON'S CASES OF ARTERIO-SCLEROSIS.

BY HARRY FRIEDENWALD, M.D.,
OF BALTIMORE, MD.

As a preface to the short report of the result of the ophthalmoscopic examination of Dr. Preston's cases, I should like to state that it is but recently that attention has been attracted to those changes of the retinal arteries as are found in general arterio-sclerosis. A few years ago Ole Bull¹ described several cases of disease in the retinal arteries, and showed how this was the cause of symptoms frequently ascribed to embolism. Raehlmann² made an exceedingly careful study of the relation between general and retinal arterio sclerosis, besides collecting a few scattered cases in literature. He examined ninety cases of general arterio sclerosis and found that in most cases the retinal arteries were narrow and tortuous, that 19 per cent. showed whitish margins along the retinal arteries, that 21 per cent. presented localized narrowings in their course, but that retinal aneurisms are very rare. Confining ourselves to these signs of arterial disease without considering the changes in the veins which he likewise frequently found, we must admit that the results are very remarkable. They are, indeed, surprising, if you remember that in all works on ophthalmoscopy such changes are not considered throughout: 6 per cent. referred to; that in the very latest, that of Gowers, we find the statement referring to general atheroma, that "in cases in which it is well marked elsewhere" he has "often looked for appearances in the retina suggesting its existence but without success." Prof. Hirschberg recently published the results of very careful ophthalmoscopic examinations of fifty persons between the ages of 60 and 80 years. Besides the many other "senile changes" he finds that 46 per cent. of the persons examined showed changes in the retinal arteries; 44 per

¹Ninth International Medical Congress Reports, Washington, Vol. III, p. 665.
²Zeitschr. f. Klin. Med., H. 5 and 6. Vol. XVI.

cent. of the persons examined showed variations in the caliber of the arteries at different points in their course; 2 per cent. showed whitish lines on their margins.

Before going further, it would be well to explain more definitely what is meant by these terms. The healthy retinal artery is perfectly transparent. What we see is the blood column within it. When the walls of the arteries thicken at the expense of their inner caliber and the thickened portion remains as transparent as the healthy vessel—and this is commonly the case—we detect the change in the narrowing of the column of blood. This thickening may take place at localized points, causing the localized variations in the thickness of the blood column or throughout the course of the vessel. In the cases mentioned above, we must, therefore, remember that the terms refer only to the blood column, and that we infer from these the condition of the vessel, for instance, when Raehlmann describes "localized narrowings of the arteries," there are only localized narrowings of the blood column, and we infer from these that there are localized *thickenings of the walls of the vessel*. In those cases where "white lines are seen along the margins of the vessels," the wall of the vessel has lost part of its transparency, and reflects some light which is seen as the white lines. This depends upon a change in the substance of the vessel, or a deposit within it different from that in the transparent thickening mentioned above, and is much rarer.

My attention was first drawn to the localized narrowings (apparent!) of the retinal arteries in cases of optic nerve atrophy, and especially in those due to embolism of the central retinal artery, in which conditions they are much less uncommon than is ordinarily supposed. But their importance struck me when I saw them in a case of beginning *retinitis albuminurica* where the signs of inflammation were almost limited to but one eye, while the localized narrowings could be seen in the retinal arteries of both eyes.³ Since then I have paid more attention to this point and have found the changes not infrequently.

It was with great pleasure, therefore, that I undertook to examine the retinal arteries of Dr. Preston's cases. I must mention that some of the cases were in bed when I was at the asylum, and could not be examined sufficiently carefully with the ophthalmoscope to look for these minute changes. For this reason only twenty-nine cases were examined, or fifty-eight eyes. In eighteen of these eyes (in twelve patients) an ophthalmoscopic examination was rendered impossible by such impediments as cataract, corneal opacities, etc., and this reduced the number of retinæ examined to forty (in twenty-three patients).

Of these forty retinæ, nineteen presented decided local or general narrowing of the arteries with frequent tortuosity (twelve patients); ten presented moderate or slight changes of the same kind (seven patients); four presented whitish margins along the arteries (two patients); one presented a hæmorrhage on the papillæ; seven appeared thoroughly normal (five patients); two appeared thoroughly normal, while there were other extensive retinal changes. Besides these I noted in several cases senile retinal changes, in the characteristic little yellowish spots due to colloid degeneration of the lamina vitrea of the choroid.

The proportion of cases in which decided changes were found is so great that I am led to thoroughly accord with Raehlmann as to the frequency of these changes and their importance in diagnosis.

A KNOWLEDGE OR A TIME REQUIREMENT. A PLEA FOR A MORE RATIONAL SYSTEM OF MEDICAL LEGISLATION.

BY YOUNG H. BOND, M.D.,

DEAN OF THE MARION SIMS COLLEGE OF MEDICINE
ST. LOUIS, MO.

The very general move in the direction of medical legislation; during the past year or so, indicates the urgent demand on the part of the profession, for the just and proper regulation of the practice of medicine. In addition it is significant of the increase in competition and of the growing metamorphosis of the art of medicine into the science of medicine, of which the precepts and teachings follow such fixed laws, that he who studies may learn.

THE NINETEENTH CENTURY.

Our nineteenth century is a wonderful one—the like of which has never been seen in the whole compass of earthly years. Born during the great struggle of freedom against tyranny and oppression, living through the downfall of the ancient superstition of the divine right of Kings, it is about to make its exit from a world whose democracy is stamped in every act, and whose parting requiem to the hoary century will be "Vox populi, vox Dei." The people—the Demos rule. Throughout this whole century an equalizing power has been exerted which has been so thoroughly engrafted upon the lives and actions of men, that it has become the spirit and temper of the age.

Such a condition must have a positive bearing upon our civilization and its effects may be concentrated in the one expression, competition. Fair, open competition is the life of our institutions, but when it begets exclusion, it becomes the very bane of their existence.

³ Prof. Hirschberg published this case in detail. *Centralblatt f. Augenb.* 1890, p. 206.

MECHANICS AND DOCTORS.

"Too many mechanics" is the cry, and forthwith in not a few branches of labor an elaborate system of restriction is practiced, and the number of artisans is maintained small by control of apprenticeship vested in the workers of that special line. As a consequence we find an undue limitation of the number of apprentices, and an equally undue extension of the time of apprenticeship, all because those within the inner circle fear honest competition.

What a decided similarity certain misdirected members of the medical profession would encourage between their high-aiming profession and these restricted divisions of labor. Do we not hear on all hands the cry, "Too many doctors, too many medical colleges, let both be limited." Again, like the apprentice-restricting mechanic, they say, "Make them study longer; make the restrictions greater" in face of the fact that they who rant and cry "reform" underwent the application of no such law, nor would. They cry, "The wolf! the wolf!" but fail to protect their charge by just and equitable safeguards, preferring, it appears, to resort to artificialities.

MEDICAL LEGISLATION.

It is a sad feature for our vaunted, fraternal and unselfish feeling for one another, that such an affair as medical legislation is necessary. Its origin, coeval with that of medicine, dates back to the time of Hippocrates, whose stringent oath formed at once an obligation and a text for future laws. Throughout the middle ages medical laws prevailed, though more or less crude. In these more modern times medical legislation is an element in every civilized set of laws, some natural and just, others artificial and presumptuous.

Our own country is at present in the throes of the subject and each State is prodded here and there, with persuasive prayers or emphatic demands, emanating not from the people but from the doctors. The consequence is that many legislators and the public look upon the medical profession as a band of sycophants, always boasting of their professional regard for one another, yet ever anxious to outdo each other, ever seeking protection, yet becoming the most violent and persistent of persecutors.

Is it strange, therefore, that sarcasm should now and then creep into our legislatures, such as, for instance, the bill introduced by a Missouri legislator, fixing the uniform rate of \$1.00 for visits and fifty cents for office consultations? Other bills of a like strain have been presented, a recent one being an act to compel each physician to advertise in the local papers his name, age, years of practice and source of medical diploma. All this is medical legislation.

Every time a State legislature meets there is a pilgrimage of doctors to the State Capitol, asking

that certain laws be enacted, the sum and substance of all being the lessening of competition and the exaltation of the few.

Some years ago the animus appeared directed towards the annihilation of quacks and impostors. Much good was accomplished, but the more the charlatans were persecuted, the more they prospered. And to-day, according to the provisions of the courts, the only restriction is "Thou shalt not lie." They may advertise what they will, so long as falsehood does not appear.

The people did not eventually look so kindly upon the efforts of the profession to efface quackery, not as has been so often represented, because of their desire to be humbugged, but because they knew there were two sides to every question, and because they felt certain that so notable an effect must have some deep-seated cause. Adding to this the great stampede of doctors for medical legislation, they arrived at the conclusion that doctors were perhaps actuated by selfish motives, just as much as by their interest in humanity, and they decided that opponents and prosecutors should not be made judges and executors. What was the result? We hear of the Board of Health being refused support year after year; in more than one case the board has been compelled to cease its prosecutions as a condition of its existence, and in one notable instance, the official member was compelled to resign in order that an appropriation might be made.

THE THREE COURSE REQUIREMENT.

The contest for a three-course qualification is far more in opposition to democratic principles than what has just been mentioned. The *raison d'être* of its advocacy by the profession is evident. Shuddering at the laxness of its conditions it seeks to improve itself. Commendable indeed, for there are many doctors who do not deserve the title and whose knowledge of medicine is confined to exceedingly narrow limits. Many are graduates who attended two courses, some three courses, others perhaps still more. I, too, agree that this is due to the fact that two years of attendance at a medical college has been the standard of license. But, believe me, I consider this the fault of the whole system and not of the lack of a three-term requirement.

If these doctors, if all doctors would have been examined by a Board, the number of ignoramuses would have been immeasurably less, in fact, it would be *nil*. What assurance have we that the adoption of a three-years course will change the existing order of things? Will the fact that three years are required make the professors any better as teachers or the students any more faithful? Will it not encourage laxness on the part of the teachers and idleness on the part of students? It is indeed plausible to consider that many students will spend their time after the fashion of so many

of their continental co-workers, whose time and money wax so heavy on their hands that they spend the half in riotous life and dissipation.

Of course if the instruction is improved coincidentally, and the examinations made more rigid and effective, in so far good will be accomplished. This is, however, by no means due to the lengthened course, but to the knowledge requirement which has been added.

THE KNOWLEDGE REQUIREMENT.

And here is just where I rest my oars, in the calm and righteous waters of knowledge. Knowledge the basis, knowledge the foundation, and knowledge the standard of qualification and excellence.

Make the two or three-course student pass a satisfactory examination before a competent board and you settle the question at once upon a basis both rational and just. No school's *ipse dixit* is taken; all submit to a fair and impartial test. Under this system a student who is a good chemist, on account of his academic education, needs not worry through two or three years of reiteration of what he already knows, and the capable druggist would be saved much time that otherwise he would squander in listening to lectures, useless to him. Equally would there be given to a nurse of experience or to one who has had much to do with invalids, the opportunity of deriving whatever benefits he deserves, and not be hampered by a time requirement, the same for tyros and for more experienced students.

With three courses a compulsory condition to graduation, a competent graduate of a good two-years school, whose professors have been conscientious, would be denied the right to practice and to exercise his hard-earned knowledge as he should, while the incompetent graduate of a three-term college of the most questionable reputation, would at once by the power and might of an unjust act, enter into the joys of the professional kingdom. Observe the whole system which should be an encouragement to industry and knowledge, by reason of the unnatural restriction of time, simmers down to an impalpable and foolish mixture of sentiment which is both unreal and ridiculous. Unreal because its basis is artificial and inefficient, and ridiculous because its application accomplishes but slight improvement at best, and that at the expense and hardship of injustice to the very men whose entrance into the profession is so desirable.

It is evident then that the three-term qualification places us no nearer the goal of our efforts than we are at present, for under its action, as now, the whole matter of licensing practitioners would rest in the hands of the professors of medical colleges—interested parties,—and not vested, as it should be, in the divine right of the people, in a board whose standard is knowledge and fairness to all.

Yet so long have doctors advocated the deification of time in this particular that what should be the foundation of medical legislation is overlooked, yea ignored, in the fetich worship of the time god.

This appears the more astonishing from the fact that the knowledge requirement is such a taking argument with legislators and men whose work and study is law-making. In the recent consideration, before the Missouri legislature, of the three-course measure, the bill was lost not, as has been falsely represented, by personal influence, but because the senators saw the fallacy of considering time and not knowledge as the proper requirement.

To say that every medical student shall attend for three years a medical college is to minimize the difference which exists between intellects and to deprive many a competent man from enjoying on account of a few paltry dollars, the fruits of his industry and knowledge, thus defeating the purpose and sense of all law.

I believe in trusts of no kind, and I most decidedly enter a protest against what is nilly-willy a medical students' trust. Any combination having for its avowed purpose a limitation based upon a standard which is unjust, which dictates unfairly and summarily, and which excludes deserving individuals from the enjoyment of such rights which by virtue of their knowledge they should have—when such a combination exists by agreement it must answer to the name of trust. As such it is detrimental to our country's interests and is in direct opposition to the old sterling principles of our government, that each man should receive fair treatment by the laws and that justice be given in accordance with each man's deserts.

FOREIGN DOCTORS.

Much has been said of the superiority of the European doctors over the American production, a statement whose deprecation is accompanied by the information that the fault is in the two-years' course. Again I beg to take issue for the palpable reason that the rigid examinations to which each student is subjected furnish proof which no argument as to time can belittle.

In Germany two examinations are held, the University and the State, each being independent of the other. It might be interesting to mention the number of rejections by the Prussian State Examiners of those who had already passed the University Examiners. In the year 1890 out of 563 applicants, 231, or 29.09, per cent. failed. Forty per cent. of the applying graduates of the University of Berlin were rejected. Where is the efficiency of the long term school compared with a good examining board? Certainly there is much valid argument in this little statement of the Prussian examinations.

In France the whole matter is left to the six Medical Faculties who constitute virtually six examining boards and who alone are authorized to issue diplomas to students of all the French schools.

In England, while the diploma issued by the University Faculties (in themselves almost equivalent to an impartial examining board) carries with it a licensing power, the various royal colleges make examinations granting to the successful applicant what is distinctive evidence of the knowledge he has acquired.

Austria and Russia have laws similar to Germany and hence present a proper solution to the question.

These illustrations are given to indicate as clearly as possible that the circumstance of the high intellectual standing of European physicians depends upon the constitution of what is equivalent to examining boards, and upon the strictness of the examinations, rather than upon the number of days, hours and minutes devoted to medical study.

It is a very serious question whether or not the unamerican legislation based upon a time requirement and excluding all who do not comply with its provisions is constitutional. Certain it is that the recent resolutions of the various boards of health which define the term "College in good standing" to signify a three-term school will not hold in any Court in the land. Efforts on the part of boards of health, such as has just been indicated, are valueless as they are misdirected. Any college which fulfils the significance of the term "College in good standing" at the time of the passage of the Act, can by mandamus compel the board to grant licenses to its graduates.

A more rational definition of the term, the boards might adopt, to-wit: Such colleges, all of whose students are able to pass a satisfactory examination before the boards of health. It does seem to me that this would be equally as legal and far more satisfactory and just.

OBJECTIONS TO A THREE-COURSE REQUIREMENT.

1. It possesses an erroneous basis, viz.: the standard of time and not of knowledge.

2. It is unfair in that it takes no cognizance of the superior intellectuality and industry of students.

3. It allows no credit for previous work and study, no matter how extensive, unless pursued regularly in a recognized medical school.

4. It is unjust because it works hardship upon deserving young men who happen to be poor in worldly goods; the rich are thus given the advantage and preference.

5. It perhaps would encourage laxness of teachers and indifference of students.

6. The ends would not be accomplished because second class colleges would exist under its en-

forcement just as well as now and they would be equally well patronized.

ADVANTAGES OF THE EXAMINING BOARD.

1. It possesses a just and rational basis, that of knowledge.

2. Every student would perforce depend upon his own efforts and zeal, and would not be indifferent of his studies unless he was not anxious to practice.

3. It is impartial—the rich have no advantage over the poor.

4. The licensing power being taken away from the medical colleges, their instruction, by the sheer force of competition, would be the drawing card for students would go where they could most easily graduate.

5. Second class colleges (and by this I mean those characterized by loose management and incompetent instruction) would be forced out of existence, because so many of their graduates would be rejected by the various State boards.

In conclusion let me restate a remark that I have already made, to the effect that it will be easy to convince the legislators of the wisdom of this measure; it is so thoroughly in keeping with fairness and right that to the law-makers it so smacks of the very essence of all law, that they advocate it in preference to all other measures.

Then let the right prevail; relieve the boards of health of the annoying duty as censors of the medical profession, and dictators of medical colleges; let the State's money be expended not for the compilation of statistics, their publication and circulation, of value to the doctors alone, but for the prime object of such a board—the hygiene of the State; let the impartial board of examiners pass on every new graduate who seeks the privilege of practicing in the State.

In such a commonwealth, the law of medicine be the law of fairness, democracy and right, and the licensed doctor will lie more comfortably on the bed of roses, nurtured by his own industry, and the incompetent one will seek some more congenial occupation.

Three results will obtain:

1. An ever increasing number of good, competent and worthy doctors.

2. An ever decreasing number of unworthy, unprofessional and incompetent physicians.

3. Medical colleges upon a higher, better and more intelligent plane.

Grand and Page Ave.

INCREASE IN THE USE OF ALCOHOLICS IN FRANCE.—From late returns it is found that the consumption of alcohol in France is largely increasing, and this despite the fact of the decrease in population. Can it be shown that there is a relation between these two processes?

ETIOLOGY OF ALCOHOLIC INEBRIETY.

Read before the American Association for the Study and Cure of Inebriety, April 11, 1891.

BY L. D. MASON, M.D.,

CONSULTING PHYSICIAN INEBRIATES' HOME, FORT HAMILTON, L. I.

The causes of alcoholic inebriety may be divided into *predisposing* and *exciting*, and the latter into two forms, *direct* and *indirect*. Inebriety from either of these latter subdivisions may be comprehended under one term, "acquired" inebriety—in contradistinction to those forms of inebriety directly traceable to heredity. This term "acquired" we shall apply to the form of inebriety due to "accidental" causes.

In the great majority of cases inebriety is not voluntarily acquired in the same sense that a person deliberately and as a matter of choice "makes himself an inebriate" so to speak, we use the term acquired, therefore, as we would apply it to other diseased conditions, not necessarily by its use implying a "moral delinquency." The *predisposing* cause of inebriety is latent and has to be called out by some exciting cause, either direct or indirect, usually of a *slighter* nature than would develop an "acquired inebriety."

Heredity is the great underlying or *predisposing cause* of alcoholic inebriety, in the same sense that heredity is the predisposing cause to many diseased conditions—as insanity, phthisis, gout, etc., constituting a diathesis or tendency to special diseases. We can with perfect propriety use the term "inebriate diathesis." We can trace "the pedigree of disease," as Jonathan Hutchinson calls it, in inebriety as in other forms of disease. Dr. Elam affirms that the offspring of the drunkard will inherit either the original vice or some of its countless protean forms. Plutarch, in his essay on "Delays of Divine Justice," asserts this fact; likewise Aristotle and Plato. "The fathers have eaten *sour grapes*, and the children's teeth are set on edge," writes the Hebrew prophet, and amid the thunders of Mount Sinai the finger of God wrote on tables of stone, "the sins of the father shall be visited upon the children."

Dr. Norman Kerr regards *maternal inebriety* as the chief hereditary cause of inebriety. Statistics show that female inebriates are much more common in Great Britain than with us—in Wales convicted inebriate females to convicted inebriate males stood as 3 to 1, while in the upper classes of English society it is well known that inebriety among females is greater than in America. My own observations trace the hereditary cause in the majority of our cases to an inebriate father.

Heredité croisée, or cross heredity, has been noticed in inherited inebriety—that is inebriate mothers gave rise to inebriate sons; inebriate fathers to inebriate daughters. Giron states that the hunters have a proverb, "*chienne et chien—chienne et chien*"—the mother's qualities

in the son, the father's in the daughter. Buffon recognizes that fact, also; personally I have not any observations to give on this point.

Atavism has been observed; that is, where the inebriate tendency or diathesis escaped the second generation and appeared in the third—the grandparents being the transgressors. We notice this fact in other diseases, as consumption, etc.

This is the sequence that is established should an inebriate mother conceive:

1. The fœtus may die *in utero*. Miscarriage is a common condition in chronic alcoholism in pregnant women.

2. Should the fœtus survive, pass to full term, and a living child be delivered, it may be an idiot or congenital imbecile.

3. Escaping from these conditions, and manifesting a fair amount of intelligence, the child, at or about puberty or earlier, may develop one of the various neuroses—chorea, paralysis, epilepsy, etc.

4. Passing from youth to manhood without any of these manifestations, then suddenly, oftentimes from slight exciting causes, inebriety, or insanity, stand out in bold relief, and the hand of fate, shall we call it? draws the curtain on a life that has struggled from birth with an "inebriate diathesis."

Surely no class of persons in this wide world have a more marked claim on our aid and sympathy than these "*miserables*." Impotent to help themselves; lacking entirely that necessary self-restraint and control that belongs to a healthy, normal constitution. The so-called moderate drinker—we define such a one as a person who drinks habitually every day, so as to keep himself moderately stimulated, and his blood and fluids moderately alcoholized, but is never drunk, never loses his self-control, and is eminently respectable in the general sense of that term. Such a man we assert may be the originator of a long line of inebriates, insane or neurotic individuals. It is a common impression that the bloated drunkard and the debauchee alone gave being to such a progeny, yet so potent, so far-reaching are the effects of alcohol if continuously used with so-called moderation, that who shall say in what quantity it may be used safely, habitually, so as not to affect cell growth in our own organism, and dwarf and degenerate it tenfold in the being whom we may beget. The modified cell in our own organism being much more modified in our progeny.

Dr. Baer, of Berlin, says:

"The extremely delicately organized, very sensitive and easily destroyed construction of the nerve and ganglion cells presupposes for the normal physiological function of this structure the completeness of integrity of this apparatus, not only anatomically, but also physio-chemically. *Every, even the smallest, inroad* on the nutritive and formative processes produces here a reaction of incomparably graver significance and weightier results than on any bodily tissue."

Dr. Baer refers to the brain particularly, for upon the brain and nervous system alcohol produces its most marked (probably functional) changes, and slight changes in cerebral or nerve tissue mean a great deal more than similar changes in other tissues or organs. We do not feel that we are making an extravagant statement when we say that these slight cerebral and nerve changes may occur in the progeny of so-called moderate habitual users of alcoholic liquors. If so, here is the "initial lesion," the starting point of the long line of inebriates and insane with which this world is cursed.

"Total abstinence" is the safest remedy for this evil, and until it is universally practiced the production of idiots, imbeciles, insane, and neurotic individuals will not cease. But, it may be asserted that the so-called moderate habitual user of alcoholic liquors will not be answerable for "this train of consequences" if he does not exceed his "physiological quantity." Will any one state what is that safe or "physiological quantity?" We shall certainly lay this waif of hereditary inebriety, insanity, and kindred evils at the door of the so-called moderate habitual user of alcoholic liquors.

But it may be added there are cerebral changes produced by causes other than alcoholic; very well, eliminate from the etiology of cerebral disease one of the most potent of these causes—the habitual use of alcohol in any quantity. Not only inebriety or insanity in ancestry, but all hereditary diseases that tend to weaken the nervous system or give rise to a so-called "*congenital neurasthenia*" are the fertile soil from which inebriety may spring. How many persons born with "a tendency to diseased cravings and paralyzed control," as Dr. Clouston aptly styles it, cannot resist the ordinary shocks of life, readily yield to the seductive influence of some narcotic, alcohol, opium, chloral, cocaine, and become veritable narco-maniacs! What a birth-right!

The question naturally arises, must all born with such a diathesis succumb eventually to inebriety or insanity in some form? We are not prepared fully to answer this question. There are in every community those who are aware of their being possessors of this unfortunate tendency. There are also those who inherit a consumptive diathesis. Instances are on record in which those having a consumptive diathesis have, by selecting their environments, as to climate, occupation and habits of life, successfully warded off the inroads of special disease. May it not be that a person who inherits the inebriate diathesis may also escape the usual results of the same in his own person by observing certain rules, regulations and habits of life? Children born of parents who have not yet become inebriates escape, while children born after parents have become inebriates inherit the inebriate tendency.

Children who inherit the mental or physical traits of either inebriate parent are apt to inherit the inebriate tendency, while other children in the same family escape it.

Moral causes are written down as the chief prevalent causes of insanity proper, second only, in productiveness, to alcoholism. How often, as we have stated, do these congenital neurasthenics, these unfortunates born with a diathesis either inebriate or insane, yield to grief, strong mental emotions, loss of friends or estate, and become either inebriates or insane, when such causes would have produced neither result in a healthy, nervous organization. There are other causes, to which we think the term *accidental* might also be properly applied, and where we generally use the term "acquired inebriety," with which predisposing causes have nothing to do, and where we might with propriety say: "Neither did this man sin nor his parents." Whether inherited or acquired; inebriety is produced by certain exciting causes which may act directly or indirectly upon the nervous system.

Direct causes are those that operate directly upon the cerebro-spinal axis, more especially the cerebrum, viz., sunstroke, head injuries, including concussion and fractures of the skull, cerebral syphilis, and brain tumors.

Moral causes producing more or less mental shock act through the different nerves on the great nerve centres, leaving behind them a profound cerebral disturbance that has as its outward manifestation insanity, or inebriety, or some other form of narcomania. Other causes act indirectly by *peripheral irritation* through the afferent nerves on the central nervous system. Such are painful ulcers, dysmenorrhœa, urethral stricture, chronic neuralgias, chronic painful diseases of any nature; tænia solium has been known to cause inebriety, when relieved of the cause the patient recovered.

Any cachexia that debilitates the nervous system, or that may result in neurotic changes, must be classed among the causes of "acquired inebriety." Chronic malarial poisoning, syphilis, etc., are among these.

Neurasthenia, or nerve exhaustion from under-feeding and over-work, especially if combined with mental anxiety, is a fertile source of inebriety or insanity. *Moral causes* produce this condition usually before plunging the patient into one or the other of these conditions. Certain employments, by their unsanitary surroundings, may produce the tendencies that lead to inebriety. The explanation for the reason that any condition producing unrest, insomnia, pain, mental worry, or mental and physical exhaustion, causing the subject of these conditions to turn to alcohol for relief from exhaustion, insomnia, or pain is found in the fact that *alcohol is a stimulant, an hypnotic, an anæsthetic, a triple capacity*; hence the neurasthenic from any causes flies to it for relief. The

victim of dyspepsia and mal-assimilation, for faintness, and sinking sensations, etc.

The one who cannot sleep finds, especially if the cause of insomnia is mental worry, that *alcohol* is to him a true hypnotic. As an *anæsthetic*, alcohol is very pronounced, and in degree will relieve pain as much as opium, chloroform, or ether. The older surgeons recognized this fact, and before the days of modern anæsthesia alcohol was used for this purpose. The laity have found out long since this peculiar quality of alcohol, and many victims of pain have sought relief in its anæsthetic effects.

The great lesson that all those who attempt to cure the inebriate is that his inebriety has a *cause*, that the inebriety itself is only a symptom of a nascent condition—as some one has said "neuralgia is the cry of a diseased nerve," so inebriety is the cry of a diseased nervous system, produced by causes acting directly or indirectly upon it. "*Tolle Causam*," the motto of every practitioner in dealing with all forms of disease, should also be the motto of every specialist on inebriety. A careful analysis of the cases of inebriety presented to us would show that there are many cases directly traceable to causes or diseased conditions that can be removed, and upon which the inebriety depends. It is the duty of every specialist on inebriety, every physician who would deal successfully with such cases, to trace out and eradicate the cause of the disorder. We cannot remove the cause in all cases; we cannot eradicate hereditary tendencies or certain lesions of tissue resulting from disease or injury; but, in many instances, we can relieve the patient of a painful or exhausting disease and thus cure his inebriety or other form of narco-mania.

MEDICAL CASES IN THE COURTS.

BY HENRY A. RILEY, ESQ.,
OF NEW YORK.

THE DANGERS OF FOREIGN IMMIGRATION.

The steamship companies are making a hard fight to avoid the penalties imposed for violations of the recent law passed by Congress against undesirable immigration. The United States officials have refused to allow a considerable number of pauper and vicious immigrants to land, and the agents of the steamship companies claim that it is a hardship to be obliged to care for them until they can be sent back. The conclusive answer of the Government is that the law is clear on the subject, and the companies should not have brought the unhealthy, insane, vicious and pauper immigrants whom it is desired to shut out. If they are brought, any expense connected with their return must be paid by the steamship companies. The figures of immigration are somewhat start-

ling, and the arrivals from countries where the immigrants are of the most undesirable classes show the largest totals.

The countries of Southern Europe are now outstripping Great Britain and Germany in the number of arrivals. During 1890, 40,883 persons arrived from Russia, 29,994 from Hungary, 62,492 from Italy, and 19,737 from Poland. It would be one of the alleviating circumstances of the disgraceful massacre at New Orleans if it checked in whole or in part the present inundation of Italian immigrants. There is hardly any problem connected with the duties of Health Boards which is so serious and so perplexing as how to deal with the insane and sick foreigners who crowd the steerages of the ocean steamships. It seems difficult to devise a practicable scheme for inspection in foreign ports, and it will perhaps only be a heavy pecuniary loss which will teach the steamship companies to exercise some supervision themselves. It is proposed, among other things, to photograph all rejected immigrants, so as to see that they do not slip in at some later time.

COSMETICS AND SPECTACLES IN COURT.

There have been various attempts in New York to convict of illegally practicing medicine a famous dealer in cosmetics, face washes, etc., whose advertisements, consisting mainly of his own face, are to be found in journals all over the country, but his business seems to go on thrivingly. It is somewhat difficult to distinguish clearly where the line between business and professional dealings lies in such cases, but we think it would be a wise stroke of policy if the aforesaid face washer were to become the *bona fide* holder of a medical diploma by a conscientious course of study at some reputable medical school.

In this connection it may be noted that the optician holds a somewhat doubtful position in regard to the practice of medicine. If he furnishes a customer glasses to cure errors in sight, does he practice medicine so as to run counter to the law requiring the possession of a license? If he investigates the troubles of the eye, determines the errors in refraction and prescribes a combination of lenses such as will remedy the affection, has he crossed the line which makes him an offender in the eye of the law? The French courts have recently held to the narrow, technical theory, and have decided that it is illegal for an optician to give pathological information on the state of the eyesight and to prescribe for any visual trouble a combination of lenses. The optician may be a physiologist, but cannot do anything to remedy the troubles he discovers. It is not unlikely that a broader principle of legal construction would be adopted in this country if the question arises, as it may at any time, concerning the status of opticians.

STEAMBOATS AND CEMETERY VAULTS ARE NOT BUILDINGS.

A New York court holds that where the Civil Damage Law forbids the selling of liquor under certain circumstances in a "building or premises," it does not apply to a steamboat where liquor is sold. The learned judge likened the steamboat to a vault in a cemetery, which he said was not a "building" in the sense meant by the statute against burglary, although it might be above ground.

PIGEON SHOOTING IS NOT CRUEL IN PENNSYLVANIA.

A Pennsylvania statute provides that any person who shall wantonly or cruelly ill-treat, overload, beat or otherwise abuse any animal shall be deemed guilty of a misdemeanor, but the Supreme Court has just held that this does not apply to a member of a gun club who, at a pigeon shooting match, shoots at and wounds a pigeon set loose from a trap, if it is immediately killed when its wounded condition is made known. The Court said:

From the facts found by the jury, the defendant has merely been punished for want of skill. It is doubtless true that much pain and suffering is often caused to different kinds of game by the unskillfulness of sportsmen. A squirrel badly wounded, may yet crawl to its hole and suffer for many hours or days and die. So with birds. They are often badly wounded and yet manage to get away only to suffer. It was not pretended that the Act applied to such cases. The sportsman in the woods is not responsible for the accuracy of his aim under the Act of 1869. At the same time it is manifest that much suffering would be spared wild game if sportsmen were better trained. Skill in shooting upon the wing can only be gained by practice. It is not so with inanimate objects. There accuracy of aim can be acquired by shooting at a mark. It is conceded that the sportsman in the woods may test his skill by shooting at wild birds. Why then may he not do the same with a bird confined in a cage and let out for that purpose? Is the bird in the cage any better or has it any higher rights than the bird in the woods? Both were placed here by the Almighty for the use of man.

In accordance with this reasoning a conviction in the trial court was set aside.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

THE TREATMENT OF TYPHLITIS.—In the earliest stage, absolute rest in bed, entirely liquid food, and a sedative mixture are necessities. I have generally used the liquor opii sedativus (B. P.), and occasionally joined with it some tincture of belladonna; nepochthe has also proved very valuable on two or three occasions. If the pain be very severe, a hypodermic injection of morphine will relieve it for a time, and I have found it disappear "for good" after one injection. A mustard-leaf may be applied to the seat of the pain,

and followed up by a linseed poultice every two hours, or a hot fermentation or spongiopilin if the poultice be too heavy. A few drops of brandy or other spirit sprinkled on the flannel on the side which will touch the skin often takes away pain successfully. It is well in two or three days' time to administer a fair-sized enema of soap and water, and unless the bowels are moved of themselves, this had better be repeated daily. With ordinary care it is quite harmless; it removes whatever may be in the sigmoid flexure, and it stimulates the colon to get rid of its contents, thus probably helping to empty the cæcum and withdrawing the cause of the inflammation. If the vomiting is troublesome, an effervescing mixture with hydrocyanic acid or small doses of lime-water, will be useful. For diet, a little broth, or beef-tea, or arrow-root, or Benger's food, given every two hours in two or three ounce doses will suffice. Milk I regard as not very good food in these cases; unless it be freely diluted with soda-water or lime-water, it is too apt to become a mass of hard curds in the stomach, which may prove very irritating to the inflamed bowel. With the cessation of pain, the lessening of the lump in the groin, and the general improvement in the patient, of course an improved diet and some changes in the medicine become needful. Bismuth, I have generally found to be serviceable in the later stage going on to convalescence. With the surgical varieties into which typhlitis may stray, I will not deal here, as I have no personal experience of them, nor will I touch on that debated question, removal of the appendix. —*Archives of Pediatrics.*

THE EFFECT OF CERTAIN DRUGS ON THE RENAL CIRCULATION.—DR. ALBANESE has published in an Italian journal some important researches on the effects of caffeine, chloral, and curare on the circulation in the kidney, by which he has been led to the conclusion that the amount of urine secreted is not directly proportional to the quantity of blood passing through the organ. When chloral alone was given there was a very marked increase in the volume of the kidney, though, as is well known, this drug has an exceedingly slight diuretic action; while curare, which has a marked diuretic action, was shown to cause no perceptible increase in the volume. When caffeine was introduced into an animal already under the influence of either chloral or curare, it immediately caused a decided increase in the size of the kidney, and at the same time induced marked diuresis. Nevertheless, the increase in size produced under these conditions was not enough to account for the large quantity of urine secreted. Dr. Albanese does not agree with Schroeder that caffeine contracts the renal vessels, but finds that its action is first to increase slightly the volume of the organ and then to

cause a slight dilatation of the vessels. As there appears to be no indication that the diuretic action of drugs is due to increase in circulation or in volume, he is inclined to refer it to some change effected in the renal epithelium.

THE TREATMENT OF IRRITABLE BLADDER.—The best internal medication is iodide of potassium in from ten to thirty grain doses every few hours with large quantities of hot, soft water. This often in the incipient stage will effect a cure in a few days and will give relief in a few minutes. The decoction of the triticum repens which has been so highly praised by some, I have been much disappointed in, as it has appeared to me to do nothing more than act as a diuretic. Tincture of belladonna in some cases is of benefit but cannot be relied upon. Keep the body warm; warm baths with shampooing is of great benefit. Some cases that in the early stages were particularly intractable have been cured by a few weeks' residence at Excelsior Springs, with a liberal use of those iron-manganese waters. Probably they change the nutritive processes that are always at fault, and at the same time wash out the bladder thoroughly by their diuretic action. Relapses are liable to occur, hence great care should be used both as to diet and hygiene, and the first symptoms of relapse promptly treated.—HALLEY, *Kansas City Medical Record*.

POMADE FOR ALOPECIA.—MONIN (*L'Union Médicale*, March 3, 1891), recommends a pomade composed of gallic acid 3 grams, castor oil 20 grams, white vaseline 40 grams, spirits of lavender 15 drops. To be thoroughly rubbed into the scalp night and morning.

CHOREA.—The physician is often at his wits' end to find some efficient remedy for chorea. Tilden claimed to have obtained great benefit by throwing a spray of ether for five or ten minutes along the spine, at the same time keeping up nerve nutrition by appropriate food and exercise. Clark, surgeon-in-chief of the police department in Newark, N. J., reported some time since in the *Times* an exceedingly aggravated case of chorea treated with entire success by antipyrin. Acting upon the hint, we have recently controlled in children from 5 to 10 years of age serious forms of chorea with 5-gr. doses of antipyrin, at first every four hours, and, as the condition improved, three times a day. Very likely there are conditions of the system which would prevent the curative action of the drug, but in these cases it was certainly very effective, acting as a positive curative agent. That this drug is something more than an antipyretic and antispasmodic is seen in its action in renal spasm, the result of calculi, in which it not only controls the spasms but, continued in 5-gr. doses for several days, causes the

uric acid and the sand to disappear from the urine.—*N. Y. Med. Times*.

Medicine.

EHRLICH'S TEST IN TYPHOID FEVER.—C. E. SIMON (*Johns Hopkins Hosp. Bull.*, 1890, 93) refers to the nature of the diazo compounds, and their tendency to enter into combination with aromatic bodies, and cites the first experiments of Ehrlich while endeavoring to discover some of these aromatic bodies in the urine. Owing to the controversy which arose regarding the diazo reaction, especially as to its diagnostic import in typhoid fever, the test has come to be regarded by many as a medical curiosity of no clinical value whatever. The author, however, is convinced by his experience that the original work done by Ehrlich is not appreciated, since his own results fully coincide with those which Ehrlich obtained. After explaining the chemical nature of the reaction as far as it is understood, and the methods which Ehrlich advocated, he details the modification which he has found most convenient as well as most delicate. Two solutions are made, one of 50 cc. of hydrochloric acid in 9.950 cc. of water, and this saturated with sulphauilic acid; the other of a $\frac{1}{2}$ per cent. solution of sodium nitrite. To make the test, 40 cc. of the first solution is thoroughly agitated with 1 cc. of the second. A few cc. of this is next thoroughly shaken in a test-tube with an equal quantity of urine. One cc. of ammonia is now allowed to run down the side of the test-tube, forming a colorless zone above the mixture, and at the juncture of the two a more or less deeply colored ring will be seen, the slightest carmine tint—the characteristic of the diazo reaction—being made out by contrast with the colorless layer above and the yellow urine below. Various plays of color may appear in different urines, but in that of typhoid fever there is produced a red coloration, which may vary from an eosin to a deep garnet. Simon has examined the urine of almost every disease which has occurred in the wards of Johns Hopkins Hospital, but has observed the reaction only in cases of typhoid fever and phthisis pulmonalis. He has had no opportunity of searching for it in cases of contagious fevers, in which Ehrlich has occasionally found it present.

The report now made is based upon observations in thirty-six cases of typhoid fever, and the details of the examinations of these are given. The results which he obtained lead him to conclude that, with the methods of examination given by Ehrlich, the reaction may be obtained without difficulty in typhoid fever from the fifth to the thirteenth day of the disease, and that with his own modification it may still be seen as late as the twenty-second day. Its absence from the fifth to the ninth day indicates a very mild case, excepting in children, although this rule is prob-

ably not an absolute one. As it occurs previously to the appearance of the rash, it is a very useful aid in the diagnosis in typhoid fever.—*American Journal Med. Sciences.*

CATARRH TREATED BY PEROXIDE OF HYDROGEN AND ARISTOL.—The *Pharmaceutical Era*, March, has a note by the editor to the effect that aristol, dissolved in the lighter petrolatum products, has helped him in a considerable number of difficult cases of naso pharyngeal catarrh. The proportion of the aristol used has not exceeded 10 grs. to the ounce. He begins the treatment by using hydrogen peroxide, in a weak solution, by means of an atomizer. This as a preliminary cleansing measure is beneficial. It is to be followed with the aristol solution as a spray, by which the affected parts are protected as by an antiseptic oily covering. Aristol is harmless in the strength above indicated, and it may safely be prescribed to the patient for home use. The results of this treatment have been the re-establishment of a healthy mucous membrane and a reduction of the catarrhal flow. The cleansing power of the peroxide is admitted on every hand, and favors the more thorough action of drugs than if they are immediately applied.

Surgery.

INDICATIONS FOR TREPHINING THE MASTOID PROCESS.—DR. SCHWARZE (*Deutsche militärärztl. Zeitschrift*, Heft vii, 1890) gives the following indications for opening up the cells of the mastoid process: 1. In recent inflammation of this process with retention of pus in its cells, when the local application of ice and superficial incision have failed to reduce the swelling, pain and fever. 2. In cases of secondary inflammation of the mastoid process, the external meatus should in the first place be emptied of any retained pus. If in adult patients this treatment, together with the application of ice, fail after a week's trial, recourse should be taken to operative treatment. 3. The mastoid process should be trephined in cases of chronic suppuration with repeated swelling, superficial abscess, or fistula, and spreading of the pus to the neck, external meatus, or pharynx, even when there are no apparent symptoms indicative of immediate danger. 4. The mastoid process, even when healthy at its surface, should be opened up in cases of retained pus and cholesteatoma, on the first appearance of symptoms pointing to dangerous complications in the middle ear. 5. The operation should be performed for the prevention of fatal consequences in cases of incurable foul suppuration in the middle ear, although no other symptom may present itself save a persistent ill odor.—*Brit. Med. Journal.*

Bacteriology.

THE ALKALOID OBTAINED FROM THE TUBER-

CLE BACILLUS.—Great interest is naturally attached to the various experiments which have been made in regard to the pathological chemistry of the tubercle bacillus. Although we are now in possession of a pretty full knowledge of the mode of action of the products of the tubercle bacilli as exhibited by the recent experiments made in all parts of the world with tuberculin, we as yet know comparatively little of the chemistry of this substance. An alkaloid was obtained from the products of the anthrax bacilli by Dr. Sidney Martin, and PROFESSOR ZUELZER has succeeded in obtaining a similar body from the bacillus of tuberculosis. A short account of Zuelzer's mode of isolating the alkaloid is given in the *Wiener Medicinische Wochenschrift*, No. 10, 1891. The entire contents of the tubes in which the pure cultures were made were repeatedly treated with hot water acidulated with hydrochloric acid. The solution was filtered, evaporated, and then several times precipitated with platinum chloride; the double salt decomposed by sulphuretted hydrogen, and the liquid again filtered and evaporated to dryness. In this way an almost white crystalline salt was obtained, which was easily soluble in hot water, but with great difficulty in cold. Its solution was light yellow in color. After keeping it for some time the dry salt assumed a light brown color. The chloride when injected into rabbits and guinea pigs exhibited a characteristic toxic action; about one centigram injected subcutaneously produced after from three to five minutes an increase in the frequency of respiration, the movements reaching 180 per minute. This continued for about a quarter of an hour, when the rate gradually became slower. The temperature rose in two out of the ten observations from normal to 102.2° F. Another constant symptom was well-marked protrusion of the eyes, which also appeared bright and shining, with somewhat dilated pupils. The sclerotic was considerably injected. It was remarkable that the protrusion of the eye was more marked on the side on which the injection had been made than on the other. All these appearances disappeared in from fifteen to twenty minutes. Toxic symptoms only showed themselves in three rabbits, and these had received somewhat larger doses, between two and three centigrams having been administered. Death usually occurred somewhere between the second and fourth days. At the site of injections there was considerable redness, and small hemorrhages were found in the muscles immediately beneath. Small effusions of blood were also found in the mucous membrane of the stomach and small intestine. In two cases effusion occurred into the abdominal cavity. The brain was, as a rule, soft and congested. Almost precisely similar results followed the injection of the alkaloid into the conjunctiva.—*The Lancet.*

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MEDICAL LITERATURE AND PHILOSOPHY.

If there is one need in American medicine above another, it is literature—words that live. All our physicians are comparatively rich, and they occupy a position in the society of the communities in which they live, which is far above that occupied by the same class of men in European countries. We have not only a larger number of readers, but a larger number of men who may become writers. We are astonished, then, that so few examples of the philosopher are produced by our guild.

Certainly there is nothing inherent in medicine which tends to dwarf this manifestation of the human mind. The medical man has an opportunity to gain a deep insight into the soul, and to follow the trend of life in rare and hidden declivities and acclivities. His intelligent sympathy is called into constant and varied activity. He knows the pinch of poverty and the load of luxury. But the inexorable laws of nature are not less familiar to him, and he is trained to follow effect back to adequate cause. To him vice and crime are expressions of conduct which are analogous to the errors or ignorance for the effects of which his services are required. His experience is wide and his touch with man acute. Certainly such a training might well be coveted by a philosopher.

The occupation of the physician gives, then, the pabulum for thought. Does it furnish the motive? Of all pursuits, medicine is the most humane and benevolent. In the true physician's life there is a constant character-building. More

than any other man he knows and feels the moral, mental and physical needs of his people, and he plans for their practical betterment. The betterment of his people is the betterment of all, philanthropy—the motive of philosophy.

But does the busy life of the doctor furnish opportunity for thought? That is as you choose. There are those who, for gain or ambition, fill their lives with petty cares and nothingnesses, who think of naught but the engagements of the moment from the time they are rung out of their beds in the morning, until, after dragging themselves home at midnight, they throw themselves undressed on anything that will serve as a couch, stupid, tired. There are those who fill their working hours with work to gain means to vie, in dress, in equipage and in display, with brokers, merchants and manufacturers. There are those who make their office and their profession an excuse for doing nothing else, and they follow their occupation in a perfunctory manner, as men in their dotage aimlessly sit at the desk where they once transacted business. For these there is no opportunity, as there is motive for thought. But the great majority of physicians, both in country and city, have leisure, and they should dedicate that leisure to philosophy. The amount of leisure may be increased by directing some calls and some cares to younger men.

If our profession furnishes character as well as motive and opportunity for thought, why are there so few thinkers in our ranks? It is because method is neglected. Logic and rhetoric are displaced by novelty or blazonry. It is because there is a sentiment, borrowed from the commercial world, that facts are more than thoughts. Hence our magazines and journals are full of experiments and clinical histories, the former often undertaken without logical limitation, and the latter recorded without rational deductions; both are ungarnished by rhetoric and unseasoned with wit.

In our medical schools no attention is given to the motive and method of medical philosophy. Our colleges are loosely connected with the university, where philosophy itself is taught, and the lyceum, even in this country, forms no part of medical education. However completely the class room instruction is given or the technique of the laboratory acquired, that is a poor equipment which the student carries away, that does not provide for subsequent medical culture.

The multiplicity of medical journals must not be looked upon as an unmitigated curse if their unvaried mediocrity enforces attention to the lack of medical philosophy. In the writer's opinion, there is not a medical author in the United States who has produced anything in the past five years which will last a lifetime. We have careful experimenters, brilliant operators, astute observers, accurate diagnosticians and successful therapeutists, but where are our teachers? The material of our clinics is only partially utilized. Our laboratories, surpassing in equipment those of Europe, are not heard from, and our monographs and compilations are dull, crude tokens of the literary taste and criticism of our profession.

The remedy is not far to seek. The student should be admitted to the study of medicine only after adequate preliminary training. The study of medical literature and philosophy should be made a part of every graduating course, and should occupy a large place in post-graduate education. Special attention should be given authors who write worthy papers, and a few words of encouragement and thanks should be sent by every reader to the author of a paper which has afforded him pleasure and instruction. Those journals only should be patronized that maintain in their columns a respectable standard of literary excellence. In our State and National gatherings those papers should be presented that, other things equal, are clothed in the most becoming garb.

THE DANGERS OF TUBERCULIN.

These have been overstated by some with the same precipitous spirit which others have displayed in their anticipation of its power for good. In the many control observations tuberculin has not been found to injure any non-tubercular person beyond the inconvenience of the febrile reaction. In tubercular subjects, however, the reaction may be alarming in severity and lead to delirium, coma, angina pectoris (Jacobi) collapse and even death. At least one death (Janisch of Innsbruck) has thus been caused by acute tuberculin-poisoning. This danger is more or less in proportion to the intensity of the reaction and it is now universally conceded, that by sufficient caution in beginning with minute quantities and increasing only slowly in dose, such acute dangers can be avoided with certainty. But apart

from the possibility of acute poisoning, other accidents have been observed. The local reaction consists in intense congestion around the tubercular focus, effusion of serum and more or less migration of leucocytes, in short a disturbance verging towards or even identical with severe inflammatory swelling. Under certain conditions such a reaction may prove dangerous, if too intense. The fear that too much reaction in the larynx may necessitate tracheotomy in laryngeal tuberculosis has not been realized, since observers have learned to avoid the rash use of large doses. VIRCHOW has stated that at the autopsy of a child dead of tubercular meningitis he saw the most intense congestion of the meninges in consequence of the tuberculin treatment, that he had ever observed. Yet the few cases of tubercular meningitis in which the treatment was tried did not seem to suffer clinically and although none were saved they did not seem to run a more acute course than ordinarily. In the lungs, however, damage has evidently been done by tuberculin a number of times. VIRCHOW, his assistant HANSEMAN, and various others (Nauwerk) report the frequency of catarrhal pneumonia and of caseous pneumonia with rapid disintegration of lung tissue and even exceptionally phlegmonous infiltration of the lungs in subjects dying while under treatment with tuberculin. In fact, clinically an increased area of dulness and of crepitation can certainly be recognized in some phthisical patients undergoing treatment. Such occurrences evidently mean danger, especially to patients weakened by their previous disease. No doubt some deaths have been hastened by the use of the remedy, and in other instances, like that of GRASSET, life has even been destroyed, where without tuberculin it might have been maintained for a long period. But these unfortunate accidents are getting to be less numerous in the more recent reports, as observers gradually learn to use the substance with more discretion in the selection of the patients, and greater caution in the administration. Various specimens have also been exhibited in Berlin, especially by VIRCHOW, which show that intestinal tubercular ulcers may perforate into the peritoneal cavity, of course with fatal result.

Perhaps the gravest question raised by VIRCHOW and since discussed by many reporters, is the query: Can tuberculin cause a dissemination

of the pre-existing bacilli throughout the body and thus lead to fresh tubercular disease, or even miliary tuberculosis? Numerous clinical observations and autopsies have shown that miliary tuberculosis can occur in patients while undergoing the specific treatment. Of course attention is at present called to every such case, but testimony is yet wanting to prove that miliary tuberculosis is a more frequent complication in patients submitted to treatment with tuberculin than it used to be formerly. Hence it cannot be stated with certainty that a dissemination of the bacilli is produced by tuberculin. But on the other hand the possibility of such an occurrence can also not be denied. It sounds like a warning to hear HANSEMANN declare that within a few months he had dissected three subjects with eruption of miliary tubercles on the epicardial surface, when the records of the Berlin Pathological Institute showed this localization to have been seen only six times in the last ten years.

LIEBMANN claims to have found free tubercle bacilli in the blood of patients during the period of reaction to tuberculin in nine cases. Some of his specimens examined in Berlin by KOSSEL showed that this was due to a deception. The cover-glasses showed that they had been used for the examination of sputum and had been insufficiently cleansed. Various other experts confirmed this opinion. LIEBMANN indeed admitted its possibility, but claimed that in other instances he had also found the bacilli in the blood when no such error could have occurred. EWALD corroborated this so far as he could tell from the slides submitted to him. On the other hand, however, EWALD himself, EHRLICH, GUTTMANN, KOSSEL, PRIOR and others have examined the blood of numerous patients during the reaction with entirely negative results.

It has also been stated by WISSOKI, of Kasan, that the lymph itself contains occasionally tubercle bacilli. In answer to this allegation LIBBERTZ, the manufacturer of tuberculin, has replied that while a few bacilli may occasionally be found in the lymph, they are absolutely harmless because they are dead, since the mode of production guarantees the destruction of all living germs with infallible certainty, and the amount of glycerine in the lymph prevents the growth of any germs which might accidentally get into the flasks from the air.

Can the dangers be avoided by any precautions in the administration of tuberculin? The agent in question cannot be compared in its therapeutic effect with any other known remedy, and the rules guiding its administration have to be learned by empirical experience. It is not a substance which, if inefficacious, is at least harmless. An agent exercising such remarkable specific influence on the tubercular process, even in infinitesimal quantities, yet without directly killing the bacilli, is capable of doing harm in unsuitable cases. Its indications and technique require precision like those of any responsible operation.

It has been learned that tuberculin has hitherto been at least useless, if not harmful, in very extensive infiltration of the lungs, in pulmonary cavities (except when combined with surgical measures), and particularly in acute and progressive tuberculosis of the lungs (or any other internal organs) with continuous fever. Great reduction of strength is likewise an unfavorable condition for its action, since the tuberculin reaction, if at all marked, runs down the patient still further. Advanced cases of phthisis have not given sufficiently encouraging results to warrant its use as now employed, in view of the possible dangers.

All observers agree that intense reaction is not of sufficiently greater advantage to the patient than a milder influence of tuberculin to warrant the large doses with which many of the earlier observations were begun. Many authors state that they have found it best to reduce the quantity of the initial dose and the ratio of increase, as their experience became wider. The most extreme advice as to the dosage has just been given by GUTTMANN and EHRLICH, who have charge of the Berlin wards under KOCH's personal supervision. In pulmonary or laryngeal disease they begin with one-tenth milligram increasing daily by one-tenth milligram more until the dose of one milligram is reached. Every second day an injection is now given two-tenths milligrams larger than the preceding one. After two to three milligrams have been tolerated the dose is augmented one-half milligram each time. Later on the quantity is more rapidly increased. Some patients showed thus favorable local reaction without any rise of temperature, except perhaps a few tenths of one degree, and without any discomfort. If any dose (sometimes less than 1 mg.)

causes a normal transient febrile reaction, the same dose is repeated every second day until it has lost its pyrogenic influence, whereupon an increased quantity is used. If a continued febrile state is produced, no injection is given until the temperature has become normal, whereupon a smaller quantity, one or even the initial one tenth milligram may be made use of. Any continuons fever the observers regard as a contraindication to tuberculin. The therapeutic results obtained have not yet been published by GUTTMANN and EHRLICH. Until this is done by these authors or others following the same plan, the question whether tuberculin can cure tubercular disease without febrile reaction, cannot be answered definitely. Various accidental observations, especially one case by SENATOR, have taught that some patients who did not respond to the usual doses by general reaction, still were unmistakably benefited. LICHTHEIM has attempted to solve this problem by treating several cases of lupus with the precaution to avoid fever altogether by the use of minimal initial and very cautiously increased doses. He states that while the usual local reaction tending towards a cure of the easily observed patches of lupus was manifested, the patients did neither improve as fast, nor to the same extent as those treated with fewer but larger doses, and that the tolerance to tuberculin and consequent loss of its specific influence occurred before the lupus had healed entirely. He therefore considered a moderate general reaction as an advantage. Other observers have found that after tuberculin had ceased to produce any further local improvement, on account of the tolerance established, an interval of some days or weeks permitted the organism to react again. By adopting this plan RENVERS reports the cure of a case of extensive tuberculosis of the larynx.

THE FINANCES OF THE JOURNAL.

From what was recently suggested by us with reference to the propriety of making an appropriation for payment of the expenses for reporting the proceedings of the Sections, we find that some of our members anticipate that such an appropriation will at once be made, and that the Sections will be thus provided for at the coming session. Much as it may be desirable, such a provision cannot be made at once.

Experience has taught us over and over again that reporting by other than medical experts is *totally unsatisfactory*. Such experts can be obtained, but it will require time to organize such a corps and to adjust them to their Sections. And when the time for such reporting arrives each Section should be provided for and all should share alike.

It will be borne in mind that though the Association may desire to make appropriations, the decision of all such questions is vested in your Board of Trustees. This Board has always been eminently conservative in the handling of your funds, and it has always labored under the embarrassment of not knowing in any given year how much money it could safely appropriate. And this arises from the fact that they could never ascertain until near the close of the financial year how much would be paid in by the members as annual dues, and how much could be earned by THE JOURNAL. For this reason they have been extremely prudent, both with reference to the expenses of the publishing department and for editorial work as well. Under the working of this general policy THE JOURNAL has never owed a debt which it could not pay, and, having money in its treasury, is able to avail itself of the advantages in the market accorded to cash customers. We have learned from critical observation just what our publishing expenses will approximate from year to year, and as there is a steady increase in our annual receipts, we believe the time has come when by recommendation of a special committee to our Trustees, and with their approval, some special appropriations may safely be made which will greatly enhance the value and usefulness of THE JOURNAL. But it is idle to suppose that such appropriations will be made without due consideration or that they can be available for use at the coming session.

THE QUESTION OF REMOVAL.

To those who have so strenuously urged, that the discussion of the question of removing THE JOURNAL to Washington be terminated, and that its pages be devoted to the promotion of medical interests instead, we have simply this to say: By a vote of the Trustees, under whose direction THE JOURNAL is published, the members of the Association were invited to express their views

upon the subject of removal. In answer to that request communications have come to us from every section of the Union. We have felt it our duty to obey instructions, and just in the order in which they have been received these communications have been published. We write to say that with this issue of *THE JOURNAL* that discussion will be closed. It now remains for the Association to determine for itself, through its Trustees, where *THE JOURNAL* shall be published, and under what supervision.

THE JOURNAL has occupied no partisan ground in this discussion, though it has had occasion to suggest the modification of some articles which would have been deemed personal by those who strongly favor the removal. Such suggestions have been kindly received, and what might otherwise have led to unpleasant results has thus been averted. In no other way, and never except as stated, has *THE JOURNAL* sought in any manner to influence the writers who have engaged in this discussion.

EDITORIAL NOTES.

AN AMAZING CHARITABLE EXPENDITURE.—According to the Secretary of the Charity Organization Society of New York, 300 societies and agencies in that city spend \$4,000,000 annually in charitable work.

THE NEW LANGENBECK-HAUS.—The foundation stone of the projected Langenbeck-Haus was laid in Berlin, by Professor Tirsch, on April 4th. This memorial to von Langenbeck is of the most enduring and highly practical kind. As its name might indicate it is not to be a hospital or invalid home, but rather a medical club house—a general meeting place containing lecture-room, library, reading-rooms, refreshment-rooms, etc. It appears that the idea originated with the late Empress Augusta, who gave much interest and attention to medical matters, and whose wisdom in this connection of von Langenbeck's memorial certainly is not to be gainsaid. The last day of the recent German Surgical Congress was set aside for the ceremonies attendant upon the corner stone placing, and the members of that body, together with State dignitaries and representatives of royalty, were present.

A SUGGESTION BEARING UPON TUBERCULOSIS.—Dr. James Braithwaite, of Leeds, mentions

(*Brit. Med. Jour.*, April 11, 1891) the possibility of curing tuberculosis by the destructive powers of other bacilli than those belonging to the tuberculous class. He believes the converse to this is true, viz., that a system thoroughly infected with the tubercle bacilli renders the action of other organisms more or less inert, and in favor of this view he gives the statement of a gravedigger, that those who have died of consumption and been accidentally exhumed two or three years after burial have an undecomposed appearance—are "like wax," while it is not so when death has resulted from other diseases.

"DRUMMING" DOCTORS.—The *Journal of the Arkansas State Medical Society* cries out fiercely—and very justly, indeed—against the unprincipled doctors who prey upon the unfortunate invalids at the Hot Springs. It is hoped the action of the last legislature will avail something in the way of renovation.

TRANSMISSIBILITY OF INFLUENZA.—In opposition to the theory that influenza is a disease not dependent upon personal contact of individuals for its progression, that it is not evolved by the intrinsic operations of a specific poison and propagated through and by means of the ordinary channels of human intercourse, may be mentioned that during the late epidemic observers have found that the course of influenza was independent of, and quite opposed to, the prevailing winds. It travelled slow in Siberia and Russia, but rapidly as soon as it reached the network of railways in Central and Western Europe. Its course was changed by the mountain ranges of Scandinavia, and it invaded Norway, not from Sweden, but from Holland and England. Again, it was deflected by the Carpathians, turning its course in the channels of travel down the valley of the Danube, and ultimately following, in direction and time, the ocean routes to Africa, India, Australia, and this country. In India it has shown the same peculiarities in following the railway lines as has been observed with us.

VENESECTION AGAIN.—J. G. Swayne, M. D., has a contribution in the last number of the *Bristol Medico-Chirurgical Journal* entitled "Puerperal Eclampsia," and in which he seeks to show the great value of timely venesection. After reviewing a case, he says: "This case is only one of many others which I have published from time to

time, in order to prove the efficacy of venesection in puerperal convulsions, and thus to rescue, if possible, from unmerited oblivion a most valuable but, in the present day, most unaccountably neglected remedy." Further on, in a note appended to his paper, the author, having late cognizance of Dr. Pye-Smith's defense of venesection before the Royal Medical and Surgical Society of London—noticed editorially in this Journal not long since—continues as follows: "It is, therefore, very gratifying to find that I am not alone in my attempts to rescue so important a remedy from oblivion."

DISEASES OF THE TROPICS.—An authoritative consideration of those diseases which give to the tropics their greatest stigma brings out the conclusion—based largely upon military returns—that although malaria is the most widely diffused and the most commonly talked of and dreaded affection, yet dysentery is without question the most fatal.

FAULTY CONSTRUCTION OF HOSPITALS.—In an Editorial Note in the last number of THE JOURNAL, in making reference to the recent fire in the Brooklyn Naval Hospital, while censuring such construction of Hospitals as will permit by means of wooden elevator shafts and dust shutters the rapid communication of fire to the entire building, we were led to infer that the Naval Department had been remiss in its duty in replying to solicitations from its medical officers.

The following note from one well known to the profession, and so related as to be an authority upon this subject, so entirely exonerates the Naval Department from such criticism that we cheerfully give place to it:

To the Editor:—I regret that THE JOURNAL has been misled in its account of a fire at this Hospital by a malicious sensational report in a daily paper. The reflections on the Washington authorities are unauthorized, uncalled for, unfounded and untrue. I have never made any request that has not been generously granted and without stint. The trifling damage was promptly repaired at slight expense.

ALBERT L. GIBON,

Medical Director in charge.

Brooklyn, N. Y., April 26, 1891.

MEDICAL ITEMS.

THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA will hold its annual meeting at Asheville, May 26, 27 and 28, 1891. The effort will be made to make the meeting one of un-

usual interest and pleasure. The scientific and the social features offer special attractions. The railroads and hotels are granting special rates. North Carolina ought to be more fully represented in our National Organization, and we trust that her leading medical men will give their influence in this direction.

ILLINOIS STATE MEDICAL SOCIETY, John P. Mathews, Carlinville, President; D. W. Graham, Chicago, Secretary. This old and able Society will convene this year at Springfield on May 19. Its sessions are always interesting, and the programme before us gives assurance that the coming meeting will well maintain the standard of excellence so long established.

DR. F. S. BILLINGS, who formerly held that position, is again appointed Director of the Pathological Laboratory of the State University of Nebraska.

JAPANESE CENTENARIANS.—The authorized report of the census returns of Japan, completed December 1, 1889, shows a total population of upwards of 40,700,000. Sixty-five persons were found who had reached their one hundredth year of life, 45 were one hundred and one, 13 were one hundred and two, 4 were one hundred and three, 1 was one hundred and four, 9 were one hundred and five, 3 were one hundred and six, 1 was one hundred and seven, and 1 had reached his one hundred and ninth year.

THE LUXURY (?) OF TUBERCULOSIS.—Now that cod-liver oil has advanced about 400 per cent. in price, and with tuberculin at no inconsiderable figure, there may be some measure of satisfaction to the proud consumptive in the reflection that he is certainly not having "cheap" dosage.

AN UNFORTUNATE OCCURRENCE.—A late exchange comments under the heading: "Arsenic in the Massachusetts Legislature." This certainly awakens our deep sympathy that so poisonous a drug should get into an assembly of lawmakers. We have often heard of whisky getting into such distinguished bodies—it has even been hinted that our National Legislature occasionally suffers in this way—but this is quite the first time we have ever heard of an arsenious legislature. We would recommend the hydrated peroxide of iron at once.

TOPICS OF THE WEEK.

GOOD POINTS FOR STUDENTS AND DOCTORS

Dr. W. H. Steele, in *Items of Interest*, says:

Our colleges will turn out an unusually large number of graduates in the spring, who undoubtedly expect to locate in some Canaan of promise and build up a practice. It shows push and pluck for a young man to strike out for himself, much more so than to buy out a practice or partnership. We all, who have tried it, know it requires many things besides a sheep-skin to successfully conduct a practice. I will give a few points, of which I have learned from sad experience, so that others may profit by my errors and losses.

Don't neglect your business.

Don't misrepresent anything to get business.

Don't try to economize by using cheap material or poor instruments.

Don't make any promises, either financial or professional, that you cannot fulfill.

Don't lock your office during office hours to go off on a frolic, or to attend to any side show, or for any other purpose that can be avoided.

Don't try to tear down a competitor's reputation on which to build your own; it makes a rotten foundation.

Don't forget that the poor have feeling, as well as the rich, and are just as deserving of respect and your best services.

Don't be cross to the little ones; some day they will be men and women, and they will remember you for good or for bad.

Don't fail to take several good journals, and to keep yourself posted on all new instruments and improvements.

Don't buy a bill of goods because they are cheap or you can get time on them. Do a cash business, and be a cash customer to every one. It will wonderfully enhance your reputation in the community.

Don't repeat some slanderous story that may have been told you by talkative patients while operating for them.

Don't let a "good enough job" go out of your office; do your very best every time for your patient. By this means you will improve your work, improve your patronage, and improve your bank account.

Don't fail to be prompt in collecting and paying your bills, if from any cause you feel obliged to give or receive credit. By so doing you will gain and keep the confidence of all.

Don't use tobacco in any form; it is certainly of no benefit to you, and, to say the least, will work you harm physically, morally and financially.

Don't use intoxicating liquors, for intemperance is the rock on which many a good practice has been stranded, and any indulgence leads to excess.

Don't forget there will come a time when your eyes will grow dim, and your hand lose its cunning. It is when you are young, healthy and prosperous that you should lay aside something to fall back on in sickness and old age, and when you will be glad to be able to reflect that you are leaving a busy, bustling world better

for the part you have played in it. A serene, satisfied old age, well provided for, must be delightful.—*Cincinnati Medical News*.

CLINICAL ART

Visitors to the Paris Salon are only too familiar with a certain phase of Impressionist art, which depicts medical men carrying on their every-day work, and even follows the hand of the surgeon into a variety of practical details ranging from vaccination to ovariectomy. Our own English school does not lend itself so readily to this unpleasant realism, but every now and then we find a peep taken into the hospital ward or the sick room, and some little idyl of domestic medicine worked out with a quiet pathos which is apt to call into sudden activity the functions of the lachrymal gland. Many of us remember John Faed's "From Dawn to Sunset," and "Tired Out," and Fildes's stalwart navy gazing with speechless misery at his dead child can hardly be forgotten by those who have seen the impressive work which now finds a somewhat inappropriate resting-place at the Holloway College. This year the brilliant painter of bright scenes returns to his early love, and gives us another touching little domestic drama on the stage of humble real life. A sick child lies on a hastily improvised bed in the middle of a poorly-furnished room, and the doctor, before he disturbs its half-comatose sleep for further examination, takes a long and keen diagnostic glance at the pale face and limp lying arms. There are obviously difficulties in the case, and he is evidently puzzled, whilst the uncertainty of the situation is reflected by the father, who, standing in the background beside his despairing wife, eyes the arbiter of his child's destiny with an anxious look, and waits patiently for the verdict. The lamp-light throws a ruddy glow over principal actor in the scene, and through the eastward window we see the chill light of the early morning just beginning to make itself felt. When visiting the studio our representative met several physicians who were speculating with keen professional interest as to the intentions of the artist. What is the matter with patient? Is the prognosis hopeful or hopeless?—and on these points a wholesome difference of opinion existed. One pronounced for tuberculous meningitis, and a necessary fatal result. Another, relying on the absence of certain diagnostic symptoms, decided in favor of fever, and a favorable prognosis. Mr. Fildes, on being appealed to, wisely declined to give any opinion of his own. The picture is simply called: "The Doctor," and he leaves those who look at it to puzzle out its meaning for themselves; and if one object of art is to stimulate thought and encourage mental speculation, then success has been perfectly attained, and the pathetic force of this masterly work will combine with the rich and harmonious coloring and the perfection of complete yet unobtrusive detail to render it one of the most attractive pictures of the coming Academy. It will be good news for the art-loving world to hear that it has been bought by Mr. Tate, and that we may therefore hope to find it included in the fine collection which he has so generously presented to the nation. By a curious coincidence Mr. Dicksee has this year worked on very much

the same lines as Mr. Fildes. Under the name of "The Crisis," he represents a sick girl sleeping that slumber which may end in the more permanent sleep of death, or lead on to the joyful awakening into convalescence. Worn out by long watching the anxious father fixes his eyes on his daughter's face, and waits for Nature to say the word which will fill him with joy or sorrow. There is something very fine about the blended look of half-puzzled expectation mixed with a kind of hopeful resignation, which fills the eyes and shades the brow of the impressive father's head, which rests on and is partly hidden by the thin hand. And again we begin to try and look into future. But it is very difficult to say how things are to go in this case. The patient is thin and worn and thoroughly exhausted, but sleep may do much for her, and "the crisis" may be past when she wakes. As the visitor turns away from the canvas he cannot help recalling a well-worn quotation from Hood:

We thought her dying when she slept
And sleeping when she died.

—*Brit. Med. Journal.*

OLD AGE AS A FACTOR IN SURGERY.

Dr. N. F. Graham, of Washington (*Medical News*, February 7, 1891), reports eight cases observed by himself, and refers to others published in this country, which show wonderful recuperative powers in very old men and women. With regard to advanced age being a contra-indication to surgical operation, it is held that if the patient be in fair general health, with an hereditary tendency to long life, mere old age is not a good reason for withholding treatment, either with the view of prolonging life, or for the relief of acute suffering. As a rule, old people, Dr. Graham states, tolerate pain better than the young, but with them shock is more severe and not so quickly rallied from. In shock lies the greatest danger to the aged, and if the patient rallies, the prognosis, so far as repair is concerned, may be considered good. They endure operations for pathological conditions, such as new growths, remarkably well. Their recovery from accidental wounds is not so rapid.

LADY APOTHECARIES.

The tyrant, man, is slowly but surely being driven behind the last breastworks of his professional monopolies, and woman is everywhere more or less triumphantly asserting her "rights." Not content with prescribing drugs she now insists on compounding them. A *projet de loi* has just passed the French Chamber of Deputies admitting properly qualified women to the practice of pharmacy. Frenchmen are nothing if not chivalrous, and it is therefore somewhat surprising to find them considerably behind other nations in this respect. In Norway women have for the last six years been allowed to study pharmacy and to manage and own drug shops. About ten women are at present employed in pharmaceutical establishments either as pupils or assistants, but not one of them has presented herself for the final examination. In Denmark only two women have, in the course of many years, taken up pharmacy, and neither of them has "qualified." In Finland there are seven female

apothecaries, none of whom, however, have passed the final examination; indeed, since 1884 no lady has applied for admission. In Russia ladies have, since the beginning of last year, been entitled to become pharmacists, and nine, having completed the requisite preparatory studies at Zürich, have passed the Russian examination. Courses of instruction in pharmacy for women have already, as we stated a week or two ago, been established in one of the St. Petersburg hospitals, from the dispensary of which the fair pillmakers have already succeeded in ousting the rival sex. The facts which we have mentioned seem to show that the strong-minded sisterhood have not the devouring enthusiasm for pharmacy which they display for medicine, though it is an occupation for which they are in some respects especially well fitted. This indifference may perhaps be due, at least in some measure, to the comparatively little opposition they have met with in the attack on that particular male citadel.—*British Medical Journal.*

TUBERCULIN.

The following charade was written by a patient recently under treatment by Koch's method at Banff, Scotland, and sent to the *Lancet* by Dr. William Fergusson:

My first lies at the root of things,
With homely earth is soiled,
Yet at the festive board of kings
Is always welcome—boiled.

My second o'er the level green
Impels the polished ball;
Where "cannons" rattle it is seen,
Yet loves the peaceful "stall."

My third around the green earth lies,
No angel ever saw it;
'Twas never viewed by mortal eyes,
Yet men must somewhere draw it.

When wasting sickness crowns the ill
By hapless men endured,
My whole fresh strength and hope instils,
And whispers "Be thou cured!"

—*Boston Medical and Surgical Journal.*

THE MONKEY SOLVES THE PROBLEM.

Monkeys have a keen sense of imitation and are always prone to copy their master's movements whenever fancy strikes them. Seldom, however, is it that a monkey has proved itself useful by such an undesirable propensity. Yet one of these inquisitive creatures has, we understand, recently performed a feat in the matter of medicine-taking, and by so doing has earned for itself a reputation which deserves recognition. This is how it was: A practitioner recently received a box of Count Mattei's medicines, and one of his children getting hold of the box gave it to a tame monkey in the house. The animal very soon broke open the box, and taking a vial of anti-cancerozo, which is used as a cure for leprosy, swallowed 750 globules, besides some other fever medicines. The proper method of taking the anti-cancerozo is to dissolve one of the globules in a quart of water, and the dose is a teaspoonful at a time. The monkey, however, is not only quite well, but as lively as ever, and must now be impervious to leprosy. Clearly, if the monkey had been able to read he would have been more discreet with Count Mattei's remedies, but as no harm happened to him, the presumption is that the remedies are harmless however they are taken.—*Medical Press.*

PRACTICAL NOTES

FOR ITCHING IN SCARLET FEVER.

Itching in scarlet fevers is not always agreeable, and it has never been supposed to be a favorable sign, but St. Phillippe (*Rev. Mens. des Mal de l'Enf.*, February, 1890), according to A. F. C., in *Archiv. Ped.*, in a paper presents the following conclusions, viz.:

1. Scarlatina is often a disease which is accompanied by itching.

2. This variety usually has a favorable prognosis.

3. The itching is due to the fact that the eruption is not intense and the cutaneous lesion not very profound.

The best application for the relief of this itching, or almost any other for that matter, is the following:

R. Campho-phenique, ʒ ss.

Abolene unguent, ʒ jss.

℞. Sig. Apply night and morning.

Another advantage is that it is in the direction of personal disinfection.—*Medical Mirror*.

DENTAL CARIES.

The following prescription has been suggested:

R. Acid. tannic., gr. lxxv.

Tinct. iodinii.

Tinct. myrrhæ, ʒā f ʒ j.

Potassii iodidi, gr. xv.

Aque rose, f ʒ vj. ℞.

Add a teaspoonful to a small glass of water and use daily as a mouth wash.—*Pharm. Record*, March 5, 1891.

CHRYSAROBIN IN PSORIASIS.

Dr. Unna recommends

R. Chrysarobin, 5 parts.

Salicylic acid, 2 parts.

Ichthylol, 5 parts.

Vaseline, 88 parts.

Made into an ointment and to be rubbed into the affected parts.—*Nouveaux Remèdes*.

FOR ANGINA PECTORIS.

The indications for treatment during the paroxysms are the following (Dr. W. R. Jackson, *V'a. Med. Monthly*, Feb., 1891):

1. To relieve pain, by hypodermic injections of morphia or inhalation of ether or chloroform.

2. To stimulate the heart to action—by use of brandy, whisky or sulphuric ether by hypodermic injections or by the mouth.

3. To keep or maintain the continued rhythmical action of the heart, and to diminish the arterial tension, which is best done by nitroglycerine, nitrite of amyl, or electricity or galvan-

ism. The cases most amenable to treatment are the purely cardiac kind, without any cardiac lesions.

Dr. Anstie gave arsenic as a tonic and preventive. It is well to put your patient on a tonic of iron and arsenic, or quinia with some aromatic. If there is a gouty or rheumatic diathesis, it should be met by appropriate treatment, and a suspicion of syphilis should likewise be suggestive. Sea-baths and travel are to be recommended. The patient should avoid all commotion—moral and physical; he should lead a quiet cheerful life, and should religiously abstain from tea, alcohol, and tobacco.—*College and Clinical Record*.

APPLICATION FOR ACNE ROSACEA.

Dr. Unna, of Hamburg, has produced what he believes to be an ideal preparation of ichthylol for application in cases of acne rosacea. It is prepared by combining it with starch in the following manner: Forty parts of starch are moistened with twenty parts of water, and this is well rubbed up with forty parts of ichthylol, and finally, one or one and a half parts of a strong solution of albumen intermixed with it. This is applied to the skin at night; it dries in about two minutes, and can be easily washed off in the morning. As there is no fatty matter in this varnish it is eminently suited as an application in lupus erythematosus, or, as Unna calls it, "ulerythema centrifugum," in which fatty matter is to be avoided.

FOR ERYSIPELAS.

R. Ichthylol, ʒij.

Ether, ʒij.

Collodion, ʒiv. ℞.

S. Paint over and around infected area.

—*Prov. Med. Journ.*

ACETANILID AS AN ANTISEPTIC.

Early in the days when acetanilid was first introduced, some prominence was given to its antiseptic properties, but in the crowd of substances specially introduced as members of the "antiseptica," this field of usefulness for it was forgotten. Quite recently its virtues in this direction have been accentuated by the descriptions of its use instead of iodoform in the treatment of hard and soft venereal sores. The chancre is simply dusted with the powdered compound, and the result is said to be a rapid and complete healing. The advantages of the odorless and non-toxic acetanilid over iodoform need no emphasis; while for hospitals and dispensaries its cheapness would further recommend it if increased observation confirm these statements.—*Provincial Med. Jour.*

SOCIETY PROCEEDINGS.

Tennessee State Medical Society.

*Fifty-Eighth Annual Meeting held in Nashville,
April 14, 15, and 16, 1891.*

FIRST DAY—MORNING SESSION.

The Society met in Watkins Hall, and was called to order by THE PRESIDENT, DR. GEO. A. BAXTER, of Chattanooga, at 10:30 A.M.

Prayer was offered by REV. C. D. ELLIOT, of Nashville.

The first paper read was by DR. T. J. HAPPEL, of Trenton, on

ABSCESSSES.

He said this field was a profitable one for thought and investigation, especially in the direction of diagnosis. So far as the treatment goes, the Latin expression *ubi pus, ibi incisio*, gives us the therapy of such cases in a few words, so far as their last stages are concerned. The prophylactic treatment is a different matter. Everything that can be done to prevent pus, to prevent the development of an abscess, must be resorted to, but when pus is present the knife is the instrument for relief. An aspirator can remove the pus itself, but the cause of it, the pyogenic something, is left behind. A free outlet must be given to the pus, the cavity carefully cleaned, perfect drainage secured, arrangements made for thoroughly flushing the diseased organ with antiseptic fluids, the strength of the patient maintained by a generous diet, and nature aided by an abundance of pure fresh air to repair the broken-down constitution.

Dr. Happel reported a case of abscess of the spleen. He said this was a rare trouble, many of our best authorities never having met with a single case. He had in the course of seventeen years practice found two cases; one due to pressure upon the organ; and the other to chronic malarial poisoning. He also reported a case of abscess of the cornea forming hypopyon, and one of the liver, which came under his observation. In closing he called attention to the peroxide of hydrogen as one of the best, if not the best, of all agents, used to cleanse and restore to a normal state all pyogenic membranes, surfaces and cavities. As one writer expressed it: "It hunts out pus in all its ramifications as a ferret does a rat."

AFTERNOON SESSION.

DR. GEORGE R. WEST, of Chattanooga, read a paper on

OVULATION AND MENSTRUATION.

He said that individual opinions and theories are as those who love darkness rather than light, and insist upon remaining in darkness rather than to be disturbed by the entrance of facts which

might bring light. The subject of ovulation and menstruation, their dependence or independence, is one of these benighted fields where individual opinions and theories run riot, and where the light of facts gained from research and experience is so perverted as to render uncertain the supposed certainty that has previously existed.

After giving a résumé of the literature on the subject, Dr. West drew the following conclusions:

1. That the increased familiarity with the pelvic organs, the result of modern surgery, has not materially added to our knowledge of their functions.

2. That though the ovular theory of menstruation has not been overthrown, yet the weight of accumulating evidence seems against it.

3. That the most recent observations point to a common nervous origin for both ovulation and menstruation, and yet an individual independence.

DR. THOMAS M. WOODSON, of Gallatin, contributed a paper entitled

TREATMENT OF PNEUMONIA; THE PAST AND PRESENT METHODS; HAS THE RATE OF MORTALITY BEEN CHANGED?

He briefly reviewed the literature on pneumonia to illustrate the opinions of medical teachers and writers. He was glad that Hare, of Philadelphia, in his work on "Practical Therapeutics," revived the old lines of treatment. He extolled *veratrum veride*, and said that in the first stage of the disease it is very useful as a medicant. Its two alkaloids possess different influences and that between them they fulfill every object that is sought for. *Jervine*, a powerful vaso-motor depressant, relaxes the walls of the blood-vessels everywhere, at the same time it quiets the action of the heart by an action over its muscle or ganglia as to reduce its force, thus preventing engorgement of the lung; while *veratroidine*, by stimulating the inhibitory nerves of the heart, also slows its beat, fills the ventricles and allays excitement. The advantages of *veratrum veride* are its completeness and rapidity of action; the fact that it preserves in healthy blood-vessels the blood which may be needed in the crisis, if the disease is not aborted, and its safety, is a point largely in its favor. In the second stage to prevent heart failure by engorgement from over-distension, Dr. Hare gives digitalis with strychnine to stimulate the respiratory centres; that he thinks alcohol in the second stage is inferior to digitalis; carbonate and muriate of ammonia are valuable adjuncts in the second and third stages. He uses opium sparingly for troublesome cough in the later stages, and not in the first stage.

In the first stage of croupous pneumonia the indications, said the speaker, are clear: 1. To control the circulation and diminish the determination of blood to the lungs; 2. To reduce

the temperature if high; 3. Allay pain by both physical and physiological rest; 4. Support the vital powers.

The first two indications are met by veratrum viride better and with more certainty than any other. The third, to allay pain, we have but one remedy—opium or its salts, which stands without a rival. Fourth, to support the patient with especial reference to failing heart and respiratory centres; digitalis, strychnine and alcohol for the later stages.

More than twenty years ago the speaker expressed the opinion that in inflammatory affections veratrum viride was a sedative of the greatest value, controlling the action of the heart as effectually as blood-letting, without the exhaustion incident to the latter. Arterial excitement is reduced by it, while the vital forces are economized. It is especially adapted in pneumonia in the stage of engorgement in which it appears to bring about prompt resolution. It may be used in the treatment of children with safety. Its constitutional effects having been secured, there is a reduced force and frequency of the circulation, reduction of temperature and respiration, and an amelioration of all the symptoms of the disease. While extolling the virtue of veratrum viride, he would not rely on it alone in pneumonia, as opium was unquestionably entitled to a prominent place, palliative and curative in its action, allaying pain, cough and nervous irritation, available in the latter as well as the early stages.

PHTHISIS PULMONALIS, WITH ESPECIAL REFERENCE TO PROPHYLAXIS,

was the title of a paper contributed by Dr. J. R. BUIST, of Nashville.

As physicians, impressed with the claims of suffering humanity, we should never relax our efforts as long as consumption, with its multiplied ills, afflicts our race, with its sickness, pain, and death. Nor have we any right, as scientists, to despair of the ultimate triumphs of knowledge and the practical results of scientific research. The acknowledged failure of all the proposed plans for the cure of phthisis, based upon therapeutical agents, should lead us upon other lines of effort for its destruction. The impossibility of procuring for the mass of consumptives the benefits of climate and altitude, even if these benefits approximated the value some assign them, should admonish us to look to the higher plane of preventive medicine in dealing with this disease.

Regarding Koch's *paratubercle* as a remedy for consumption, Dr. Buist said the high expectations so recently excited in these inoculations do not seem to be verified. Certainly for advanced stages of phthisis, and many other conditions of tuberculosis it is unsuited and positively dangerous; and it is not settled whether any benefit can

attend its use in the incipient cases. In making this statement, he would not detract anything from the real value and merit of the discovery, and meant no disparagement of the genius of Koch.

Preventive medicine is after all the acknowledged aim and end of scientific research. Though still in its infancy, it has accomplished wonders for humanity. And it is obvious that its first and highest triumphs are to be won among the class of zymotic and infectious maladies. The power of prevention is incalculably more precious than any therapeutical measures. It is therefore highly incumbent upon us individually and collectively to assure ourselves of the modern theory of consumption, and so convinced, we should direct our attention and efforts to a rational prophylaxis of this fatal disease.

It may be said that the true difficulty is to get the public to realize its danger from various sources, and still more to have wise prophylactic measures adopted. This is in the main true; yet education can perform wonders. The benefits of sanitary reform are now acknowledged and trusted, although fifteen years ago it met with indifference and opposition.

The speaker closed with the words of Dr. E. O. Shakespeare, of Philadelphia: "What use was it for Koch to have made his discovery of the infectious nature of the bacillus tuberculosis, if the practitioners of medicine, those who come in direct contact with the people, who are the natural agents for arousing such a public sentiment and enforcement of laws for the protection of public health, utterly neglect to act upon the ample and exact knowledge which we possess concerning the etiology and prophylaxis of tuberculosis."

EVENING SESSION.

The public were invited to attend this session. Addresses were delivered by Hon. William Litterer, Mayor of Nashville, Hon. H. H. Norman, and Judge J. M. Dickinson. Dr. Geo. A. Baxter also delivered at this session the Presidential Address, his subject being *Topics of Import to the Profession and Public*. The address was scholarly, very instructive, and was listened to with marked attention.

SECOND DAY—MORNING SESSION.

Dr. J. S. CAIN, of Nashville, read a paper on

CHRONIC ENDOMETRITIS,

in which he said the question as to the localization of the chronic form of endometritis is rendered more prominent than that of the acute form on account of the conflicting opinions, entertained by distinguished authors and teachers. None, he believed, questioned the very frequent occurrence of chronic cervical endometritis, but Drs. Emmet, Bennett, and other very distinguished authorities, almost absolutely ignored the existence of chronic

corporeal endometritis as a special disease, and consequently except for the relief of hæmorrhages, and to meet temporary emergencies, discountenance all intra-uterine medication, relying entirely upon treatment directed to the urineric os and vault of the vagina. But the great preponderance of medical authority is averse to the opinions entertained by these gentlemen, and with the latter class he was entirely in accord.

Chronic endometritis and the conditions necessarily allied therewith are the most common as well as the most important diseases with which the gynecologist has to deal. This condition is often a sequel to the acute form of the disease, and grows out of repeated acute attacks. It matters not how or from what source the acute outbreaks originate, whether from catarrhal, specific, traumatic or internal constitutional causes, they are often, but not always, the starting-point from which not only the endometrium but the entire uterine and periuterine parenchymatous structures become involved. He would here venture the assertion, that while the change in structure and function of the lining membrane of the uterus often seem to be the most prominent conditions, and those which demand our first and most careful attention, this tissue is probably never chronically diseased without a corresponding involvement of the entire uterine structures.

Treatment.—While the curette, as has been said, is a blind instrument and capable of doing harm in careless and incompetent hands, yet for the removal of fungoid vegetations and adenoid degenerations from the endometrium, it affords the surest, speediest and safest means as yet devised. Dr. Cain is accustomed to following the curetting by an application of Churchill's tincture of iodine or diluted carbolic acid, as is the usual practice, and always precedes the treatment by a careful washing out of the vagina and uterus with a disinfectant of one to two thousand corrosive sublimate.

In cases where this treatment is not admissible, or where it has failed to afford relief, his next reliance is on the electro-chemical action of negative galvanism, in removing the vegetations after the method of Apostoli. This is accomplished by introducing an electrode, insulated to near the point, into the uterine cavity, and connecting with the negative pole of the battery, connecting the other pole with a large pad of moistened potter's clay, sponge or prepared cotton, placed over the abdomen. The time for employment of the galvanism at each treatment should be from ten to fifteen minutes, and the treatment should be repeated about twice a week.

The strength of the current to be employed will depend much upon the acuteness of the particular case, and the susceptibility of the patient to electrical treatment. The chronic cases always require the stronger current. The dosage

may be fixed at from ten to three hundred milliamperes; the minimum is, in his judgment, too small to accomplish any good results, and yet physicians with much larger experience have had to employ it.

This line of treatment he considers free from many of the objections to others; it is cleanly, free from pain, and exempt from danger. Unlike cauteries and escharotics it can be limited in its influence and produces no deleterious effects upon the sound tissues, nor does it leave a raw and exposed surface like the curette to absorb poisons and septic agencies, and while it removes the vegetations it imparts renewed tone and vitality to the diseased organ.

(To be concluded.)

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Phthisis by Inoculation with Vaccine Lymph—Bellevue Hospital Training School for Male Nurses—Hospital Saturday and Sunday Association—The Establishment of Public Hospitals—Care of the Insane Poor—Miscellaneous Items.

It will perhaps be remembered that some time ago reference was made in this correspondence to the treatment of phthisis by inoculation with vaccine lymph, as practiced by Dr. J. Hilgard Tyndale. At the last meeting of the New York County Medical Association, Dr. Tyndale, in reading a paper on this subject, presented nine patients who had all shown the presence of the tubercle bacillus in their sputa, and most of whom had cavities in their lungs, who, he claimed, had all either recovered or were in a fair way to recovery from their tuberculous trouble. Altogether he has treated twenty-three carefully selected cases by this method, and he stated on this occasion that in the other fourteen the same favorable results had been noted as in the nine that he exhibited. He lays great stress on exact and localized diagnosis, and would select for inoculation cases in which are found more or less active cavities and infiltrations, with suppurative expectoration, coupled to a not entirely hopeless general condition. No cases of pure connective tissue proliferation, nor of general or localized cirrhosis of the lung (in other words, peri-bronchitis), and no cases of purely mechanical disturbances of respiration caused by the binding down of lung tissue by pleuritic adhesions, nor cases in which diffused dry, sibilant râles, heard all over the chest, distinctly point to obstruction in the upper air passages, are regarded as suitable for this method of treatment. Cases in which

the bacilli are no longer localized, but have become disseminated throughout the lungs, are admitted by Dr. Tyndale to be incurable by his own or any other treatment that has as yet been devised.

For each injection he usually employs the contents of one capillary tube, about 2 drops, of pure vaccine lymph, and he mixes with it 15 drops of distilled water and 1 drop of glycerine. The fluid is injected subcutaneously near the seat of trouble by means of an ordinary hypodermic syringe. At first the injections are made at intervals of from six to eight days, but after the bacilli have disappeared and the expectoration has become sparse and of a mucus character, they are made only once in every two, three or four weeks. At the third and fourth injections the contents of two tubes are often used. No violent reaction follows the injection, but the temperature usually rises from one to two degrees in the course of from eight to twenty hours, and more or less frontal headache is apt to be experienced. As long as the signs of active tuberculosis remain, no supporting treatment is adopted, but as soon as these have disappeared, means for the promotion of blood and fat formation, varied according to the circumstances of the special case, are at once inaugurated. Lung gymnastics, consisting of five deep inspirations every twenty minutes throughout the day, also constitute an important part of Dr. Tyndale's treatment.

So far as known, the twenty three cases mentioned are all that have as yet been treated by the vaccine lymph inoculations, but the impression made by the paper and by the nine patients exhibited was such that it is probable that before long the method will be tested by a series of investigations sufficiently extended to show whether it is really of permanent value or not. In regard to the treatment of tuberculosis in general, Dr. Tyndale's idea is that more than one animal and chemical virus will be found to accomplish the same object, and that the secret of the whole matter lies to a great extent in a correct diagnosis and the adaptation of the remedy to each individual case.

Since the meeting at which his paper was read it has been suggested that a commission should be appointed by the County Association to make a thorough investigation and report upon Dr. Tyndale's method, and it is probable that this will be done.

A very interesting occasion was that of the graduation of the first class of pupils from the Bellevue Hospital Training School for Male Nurses, which was established two years ago through the liberality of Mr. D. O. Mills, and was probably the first institution of its kind in the world. There were seventeen graduates, and a remarkable feature in regard to the class was the diversity of the localities from which its members

hailed. One was from New York City, two from other parts of the State of New York, two from New Jersey, two from Pennsylvania, one from Connecticut, one from Massachusetts, one from Michigan, and one each from London, Berlin, Copenhagen, Edinburgh, Paisley, Scotland, Wales, and Clare, Ireland. The diplomas were presented by the founder, Mr. Mills, himself, and addresses were delivered by ex-Mayor Abram S. Hewitt and the Hon. Chauncey M. Depew. Since the school was established there have been in all 115 pupils, and there are at present 43 in attendance.

The Hospital Saturday and Sunday Association's distributing committee recently met at the Mayor's office, and made the annual apportionment of the money resulting from the annual public collection for the hospitals. The amount collected this year was \$58,297, and of this \$49,000 was distributed to the various institutions represented in the Association in accordance with the number of free days of treatment furnished by each during the year 1890. The hospitals receiving the largest amounts are the following: Mount Sinai Hospital, \$6,789; St. Luke's Hospital, \$5,930; Montefiore Home for Chronic Invalids, \$5,020; German Hospital, \$4,890; and the Hospital for Ruptured and Crippled, \$4,677. On Easter Sunday the Rapid Transit Electric Railroad Company, of Newark, N. J., generously gave all its receipts to the three hospitals of that city which are supported by charity—St. Michael's, St. Barnabas and the German. The traffic was unusually heavy, and as many of the passengers paid bills instead of nickels for their fares, the amount realized was the handsome sum of \$902.

The noted Fayerweather will contest having been brought at last to an end, many of our hospitals will receive substantial additions to their endowments. Thus the Woman's Hospital is to get from the estate \$210,000, St. Luke's Hospital, the Presbyterian Hospital and the Manhattan Eye and Ear Hospital each \$50,000, and Mount Sinai Hospital, the New York Eye and Ear Infirmary, the Manhattan Hospital and Dispensary, the New York Cancer Hospital and the Montefiore Home for Chronic Invalids, each \$25,000.

A gratifying mark of progress in this close of the nineteenth century is the establishment of public hospitals in so many of the smaller cities and towns of the country. In the village of Sing Sing, on the Hudson, there has just been opened the Ossining Hospital, a substantial building containing thirty rooms and fitted up with all needful appliances. It stands on a two-acre lot in a healthful location, and is lighted with gas and supplied with water from the village system.

The bill appropriating \$454,000 for carrying out the provisions of the law establishing State care of the insane poor, which was enacted a year ago, has happily passed the Legislature and re-

ceived the Governor's signature. The State policy in regard to this matter having been once settled, good faith required that the appropriation should be made, to give full effect to the beneficent measure which was the result of so many years of agitation and effort. Yet it had to encounter the same opposition that this grand reform movement has always met with, and at one time Albany fairly swarmed with county supervisors and with lobbyists who spared no effort to defeat it. While the bill was pending the Medical Society of the State of New York was in session, and it adopted resolutions strongly urging its passage. The annual report of the State Commission in Lunacy for 1890 shows that the money thus appropriated will be sufficient to provide for all of the insane poor now unprovided for by the State, when used in conjunction with appropriations which have been already made and with other provisions which have been secured. The claim which had been put forth by the enemies of this movement, that the State hospitals for the insane are all badly overcrowded, is shown by the report to be almost entirely without foundation. Moreover, the Commission shows in its estimate that it has left a liberal margin for the annual increase in the number of the insane in the State. While the report clearly indicates that the Commissioners do not favor overcrowding in the State hospitals, it is undoubtedly their opinion that even if this should exist to some little extent, it would be much better for the patients than to be crowded together in the wretched quarters and with the inadequate care provided by the county poor-houses.

Until within a comparatively recent period insanity was believed to be increasing with great rapidity relatively to the increase of population. The report of the State Commission in Lunacy shows, however, that at present insanity is apparently decreasing, rather than increasing, relatively to the general population. Notwithstanding the incalculable harm that has resulted from the legal division of the insane into two classes, the acute and chronic, or so called incurable (one of the great evils against which the long agitation in this State has been directed), there is reason to believe that this favorable result has been chiefly brought about by the improved methods that have been more or less generally adopted in the treatment of the insane. Consequently, there can be little question that when all the insane poor of the various countries shall have been brought under the beneficent influences which prevail at the State Hospitals under their present enlightened management, the results will be even more satisfactory. The statistics presented in the report of the Commission show that in the State Hospital at Utica the percentage of recoveries among the patients has been 19.53, in the Buffalo hospital 29.19, in the Middletown hos-

pital 16.16, in the Poughkeepsie hospital 18, and in the Asylum for Insane Criminals 3.96. The report outlines the history of the State's system of caring for its insane dependents, and shows that the present plan of management is in accord with the policy that has been adopted for the prisons and other large interests that require appropriations by the Legislature.

Like liberty, however, reform in the care of the insane by the State must depend on eternal vigilance for its maintenance, requiring constant efforts on the part of its friends. The State Commission in Lunacy, which has been so prominent in the movement, has naturally made enemies not only of a host of county officers, but of all the corrupt elements of the managing boards of the State Asylums, which have been practically superseded by it. The unchecked expenditure of from two to three million dollars yearly has been taken from them, and, as has been pointed out, the expenditure of large sums of money derived from State and other non-local sources by local boards can hardly be otherwise than extravagant and corrupt. The prize of the two or three millions annually required for the State hospitals for the insane is a tempting one, and there is considerable danger that a ring of public plunderers, now drawn from the hospital boards, or held in check by the Commission in Lunacy, may succeed in abolishing that body, and re-establishing their rights to these institutions as a local franchise and to the function of investigating themselves and their agents.

Since the appropriations required for the present needs of the State hospitals were made by the Legislature, a bill has been passed by the Senate which materially modifies the law for the State care of the insane so far as it applies to the State hospital at Middletown, which is in charge of a staff of homoeopathic physicians; and the State Commission in Lunacy, the State Charities Aid Association, and all those who worked to secure the enactment of the existing law, are naturally strongly opposed to the adoption of this measure. Under the present laws, all the State hospitals are authorized to receive paying patients from all parts of the State, provided that there is room for such patients not required by the pauper and indigent insane for whose benefit these institutions are established. The proposed legislation (adopted by the Senate, but not yet by the Assembly), seeks to free the Middletown Asylum from this condition, leaving it optional with this hospital to fill its wards entirely with paying patients should it so desire, without restriction of any kind. The second part of the bill is designed to allow the Middletown State Hospital to receive indigent and pauper patients without restriction from all parts of the State, and to fix the charge to the counties for their maintenance.

This legislation, as pointed out by Prof. Chas. F. Chandler, President of the State Charities Aid Association, with which the State Care Act originated, would nullify two important features of the latter act. "That an effort," he says, in a letter addressed to the Chairman of the Committee on Public Health, "should be made to break up the State Care system, as provided by this law—a law which for three years has been under discussion by the entire press of the State, by three successive Legislatures, and has received the verdict of popular approval—before the law has had time to go into full operation, is much to be deplored. On October 1st, 1890, the State was divided into State asylum districts. . . .

This provision of the law causes no injustice, and is working satisfactorily, and therefore I wish to express my dissent from that portion of the bill which gives the Middletown hospital the right to receive pauper and indigent insane patients from any part of the State, as tending to break down the State districting of the State Care act. Should the same privilege be extended to all the State asylums the valuable State districting features of the State Care Act would cease to exist. The other important feature of the State Care Act which will be nullified, should the Legislature grant special privileges to the Middletown State Hospital, is that which provides that after the State has been divided into asylum districts, the charge to the counties for their pauper and indigent insane in State asylums shall be the same for all the counties of the State. It seems to me right and just that the charges to the counties for the care of their pauper and indigent patients in State asylums should be the same for all the counties of the State, and therefore I am obliged again to express my dissent to that portion of the bill which exempts the Middletown asylum from this provision of the act. As President of the State Charities Aid Association I respectfully protest against the enactment of this special legislation, which I believe to be opposed to the best interests of the pauper and indigent insane of this State."

The University Medical School, which has just celebrated its 50th anniversary, had a very large graduating class this year, 203. The Bellevue graduates numbered 152, and those of the Long Island College Hospital, Brooklyn, 82. At a meeting of friends of the University called for the purpose of aiding in raising a fund of \$500,000 for the needs of this institution Prof. Alfred L. Loomis recently stated that the medical department of the University on its present basis had reached its utmost possible limit of success. This year there was a matriculating class of 694, so that all the professors received salaries sufficient to compensate them. Without an endowment, however, it would not do to raise the standard of the school, since maintenance was dependent on

the tuition fees of the students, and to do this would cause a falling off of about 30 per cent. in the attendance. Dr. Loomis said furthermore on this occasion that rich New Yorkers were pouring out their money for hospitals, while they allowed educational interests to suffer. He believed that at least \$500,000 had been spent for hospitals in this city which ought to have been devoted to the latter. Consequently, New York had more hospitals to-day than the needs of the sick and indigent required, and nearly one-third of the patients in these hospitals who are able to be taken care of elsewhere.

P. B. P.

To the Editor:—In your issue of October 11 there appears a paper by Dr. Wm. H. Daly, a nose and throat specialist of this city, on "The Medical Treatment of Diphtheria," containing statements that call for correction. The paper was read at the forty-first annual meeting of the American Medical Association at Nashville, June, 1890, and strange to relate, its claims for originality were not contradicted. The special treatment for diphtheria to which Dr. Daly refers, and which he claims as his own, is that by large doses of calomel. He says: "You will pardon me if I undertake to draw your attention again to a well-tried plan of treatment which I had the honor of bringing to the notice of the profession in a paper entitled, 'The Simplest and most Efficient Treatment of Diphtheria,' which I read before the Congress of the American Laryngological Association in Philadelphia in 1886." I propose to prove to you that the writer of both of these papers shows a lack of justice toward his professional brethren that is truly marvelous. The treatment of diphtheria by large doses of mercury was first practiced by Bretonneau in 1821, and his method of administering the drug, and his history of cases appear in the Transactions of the Sydenham Society. Dr. Daly may be ignorant of the work of Bretonneau, but he cannot enter such a plea as regards the work of the late Dr. Wm. C. Reiter, of this city. Dr. Daly and Dr. Reiter were fellow-townsmen and cotemporaries, and Dr. Daly, like the rest of Dr. Reiter's friends, cannot forget the earnest enthusiasm with which the calomel treatment was urged. Dr. Reiter's sole aim during his later years was to impress the value of the calomel treatment on the profession, and in pursuance of this effort he published in 1878, through the Lippincotts, of Philadelphia, a monograph entitled, "The Treatment of Diphtheria Based upon a New Etiology and Pathology." It is to this little book that Dr. Daly is indebted, not only for his ideas, but in many instances for his very words. Finally, Dr. J. Chris. Lange read a paper on the calomel treatment before the Mott Club, of Pittsburgh, of which Dr. Daly was a member, in 1882, and published it,

together with the discussion which it provoked, in the *Philadelphia Medical Times* of January 8, 1883.

It may seem a gratuitous labor on my part to make this correction, but I am convinced of the need of it by the citation, in Keating's *Cyclopædia of the Diseases of Children*, of Dr. Daly as the sponsor for the calomel treatment. A proper regard for the memory of Dr. Reiter prompts me to speak.

ADOLPH KENIG, M.D.

33 Ninth St., Pittsburgh.

SPECIAL CORRESPONDENCE.

Shall The Journal be Removed to Washington?

ACTION OF THE AURORA (ILL.), MEDICAL SOCIETY.

At the regular meeting of this Society, held April 7, the following preamble and resolution was read, and unanimously adopted:

WHEREAS, we as members of the Medical Profession, feel a deep interest in the prosperity and welfare of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, situated as it is near the geographical centre of its numerous subscribers and contributors, with facilities for its early and rapid distribution unsurpassed in the United States, and believing that its removal to the City of Washington, in place of being an advantage, would certainly be a detriment to its usefulness. Therefore, be it,

Resolved, that we cast our unanimous vote to have it remain in its present location and under its present able management.

To the Editor:—I have been a member of the American Medical Association for a number of years, and have taken THE JOURNAL ever since its first publication, and live 900 miles from Chicago, and always receive it on the day of its issue, and find it increasing in value and interest; therefore, cannot see what advantage could be derived from changing the place of its publication from Chicago to Washington. Under such circumstances I say, let it remain in Chicago.

A. M. MILLER, M.D.

Bird-in-Hand, Pa., April 20, 1891.

To the Editor:—The publication of THE JOURNAL is preëminently a business enterprise. If the place of publication is to be changed, good and sufficient reason must be shown for such change; no argument being necessary to maintain a location when it has prospered. No argument has been brought forward which a business man would consider for a moment as a reason for changing his place of business. Therefore, do not change.

HORACE M. STARKEY, M.D.

Chicago, Ill., April 23, 1891.

To the Editor:—Those doctors at Washington who have endeavored to transfer THE JOURNAL, had better come to Chicago; they will find much to their own advantage. At least the good of THE JOURNAL and Association can be best served at the geographical centre, Chicago. Decidedly no! Do not remove THE JOURNAL to Washington. "Do not put it under a bushel."

J. CH. DODDS, M.D.

Denver, Col.

MISCELLANY.

MISSOURI STATE MEDICAL ASSOCIATION.—The annual meeting of this Association will be held at Excelsior Springs, May 19th, 20th, and 21st.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 18, 1891, to April 24, 1891.

Major Alfred A. Woodhull, Surgeon, is detailed to represent the Medical Dept. of the Army at the International Congress of Hygiene and Demography, at its meeting in London, Eng., from August 10 to 17, 1891. He will leave his present station not later than June 1, 1891, and will proceed to London. After the adjournment of the Congress he will return to his proper station. While abroad under this order, and before returning to the United States, he will visit on official business such points in Great Britain as may be deemed necessary by the surgeon General of the Army. By direction of the Acting Secretary of War. Par. 17, S. O. 91, A. G. O., Washington, April 22, 1891.

Capt. William F. Knudler, Asst. Surgeon, is relieved from duty at Jackson Bks., La., and will report in person to the commanding officer, Ft. Logan, Col., for duty at that post, reporting also by letter to the commanding General, Dept. of the Missouri. By direction of the Acting Secretary of War. Par. 2, S. O. 88, A. G. O., Hdqrs. of the Army, Washington, April 18, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending April 25, 1891.

Medical Inspector D. McMurtrie, detached from Navy Yard, New York, and to the U. S. S. "Lancaster."

Medical Inspector Edward Kershner, detached from Marine Rendezvous and to Navy Yard, New York.

Surgeon C. G. Herndon, from Naval Hospital, New York, and to the Marine Rendezvous.

P. A. Surgeon James E. Gardner, ordered to Naval Hospital, New York.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending April 18, 1891.

Surgeon P. A. Bailhache, to represent the Service at the annual meeting of the California State Medical Society. April 8, 1891.

Detailed as chairman of Board for the physical examination of officers, Revenue Marine Service. April 14, 1891.

Surgeon John Vansant, detailed as chairman of Board for physical examination of officers, Revenue Marine Service. April 14, 1891.

Surgeon H. W. Austin, detailed as chairman of Boards for physical examination of officers and candidates, Revenue Marine Service. April 14 and 15, 1891.

Surgeon J. M. Gassaway, leave of absence extended five days. April 15, 1891.

Surgeon G. W. Stoner, to proceed to Alpena, Mich., on special duty. April 12, 1891.

P. A. Surgeon W. P. McIntosh, detailed as recorder of Board for physical examination of officers, Revenue Marine Service. April 14, 1891.

P. A. Surgeon G. M. Magruder, detailed as recorder of Board for physical examination of officers, Revenue Marine Service. April 15, 1891.

Asst. Surgeon T. B. Perry, ordered to examination for promotion. April 6, 1891.

Asst. Surgeon R. M. Woodward, ordered to examination for promotion. April 6, 1891.

Asst. Surgeon H. T. Goodwin, ordered to examination for promotion. April 6, 1891.

Asst. Surgeon G. T. Vaughan, ordered to examination for promotion. April 6, 1891.

Asst. Surgeon H. D. Geddings, detailed as recorder of Board for physical examination of officers and candidates, Revenue Marine Service. April 14, 1891.

Asst. Surgeon J. C. Ferry, detailed as recorder of Board for physical examination of officers, Revenue Marine Service. April 14, 1891.

Asst. Surgeon J. F. Groenevelt, to rejoin station (New York). April 13, 1891.

Asst. Surgeon M. J. Rosenan, to proceed to Cairo, Ill., for temporary duty. April 13, 1891.

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THE Journal of the American Medical Association.

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ADDRESSES.

THE PRESIDENT'S ADDRESS.

Delivered at the Forty-second Annual Meeting of the American Medical Association, at Washington, D.C., May 5, 1897.

BY WM. T. BRIGGS, M.D.,
OF NASHVILLE, TENN.
PRESIDENT OF THE ASSOCIATION.

Ladies and Gentlemen: My heart swells with pride when I look over this vast assembly of the representatives of a profession, distinguished alike for its antiquity, its scientific attainments, and its usefulness; a profession which forms the true link between science and philanthropy.

You, gentlemen, as members of this Association, have been delegated by your local Associations, from every part of this Grand Republic, from the Kennebec to the Rio Grande, from orange groves and golden sands, from mountains clad in eternal snows, and valleys smiling in perpetual verdure, to represent them on this occasion.

You are here with no selfish motives, nor purposes of self-aggrandizement, nor to excite or perpetuate sectional antipathies.

Indeed, as physicians you should recognize no section; with you there should be no East, no West, no North, no South. You are here solely for the promotion of science and for the good of the human race. You are here to maintain the honor and dignity of the profession and to hold aloft the flag of honorable medicine. You are here to lay your contributions,—the accumulations of your study and observation,—upon a common altar for the common good; to worship at the sacred shrine of medicine and to renew your fealty to the noble profession to which you have devoted your lives and linked your fortunes. You are here to exchange experiences with each other, to separate by discussion the grains of truth from the wordy chaff in which they may be hidden, to renew friendships and to weave more closely the bonds of professional brotherhood.

As physicians you have an almost superhuman mission to fill. Life, the greatest of human blessings, and health, the greatest stimulant to earthly enjoyment, are the issues with which you are called to deal.

The chief objects of your professional work are

to preserve the one, and to procure the other. The goal of your ambition and desire is almost at the end of human capacity. It is your province as well as your earnest desire to know all the secrets of organization. You would have the formative crystal and germinal spot made transparent. You would enter the microscopic world and witness the wonders therein revealed. Indeed, you would, if it were possible, search into and unravel the very mysteries of the vital principle.

To this perfect knowledge you aspire.

It is doubtful if man's intellect, great as it is, can ever compass all that he so earnestly desires, yet by constant and faithful work he may approach nearer and nearer to its consummation.

He has before him rich and boundless fields for research, from which the eager and enthusiastic explorer may gather the richest prizes. To these fields the future generation of physicians will be attracted in the hope and belief that as man advances in knowledge and approaches nearer to the understanding of the perfect wisdom, which designed his physical organization and by which he is brought in relation with the world around him, he will be enabled to solve more and more of the difficult problems which have, for ages, baffled and perplexed him, and to elevate the profession of medicine to a position more nearly akin to that accorded to the exact sciences.

We live in an age of progress, and all the arts and sciences are advancing with gigantic strides. With the aid of steam and electricity time and space have been almost obliterated. The most distant parts of the world have been made neighbors. A fact developed or an important discovery made, is flashed in the shortest conceivable time to the most remote parts of the globe and given to the public without money and without price.

The science of medicine has kept pace with, if it has not outstripped all other sciences.

It has been completely revolutionized within our day. The microscope, chemical analysis, clinical observation and vivisection are carrying the medical mind with wonderful velocity in pursuit of knowledge, far beyond, indeed, the most sanguine conceptions of even a third of a century ago.

In every part of the habitable world blessed

with the light of civilization, active, busy members of our profession endowed with high culture and incited by the noblest resolves are enthusiastically engaged in unravelling the mysteries of disease and seeking the means and methods of treatment for the mitigation and relief of suffering and the prolongation of life.

That the full benefit of the labors of American physicians might be attained and utilized, it was essential that the members of the profession scattered over an area of country of almost inconceivable extent, should be brought into associated action,—should be organized into a body by whose annual discussion an exciting, vivifying and healthful influence might be exerted over the length and breadth of the land, until a correct and noble sentiment had been engendered in the bosom of every member of the profession.

Through the brilliant genius and indomitable energy of one who is known as the "Father of the Association," this grand body was formed and has ever been sustained and fostered by his parental solicitude, in which he has been nobly assisted by the cordial coöperation of his brethren. More than a generation has passed since its organization, and many of the master spirits which were present and assisted in the inauguration of the enterprise have joined the silent majority, leaving it as a precious heritage to their successors, who should be actuated by the same spirit which inspired those who had preceded them, and with the same energy and zeal endeavor to manage the high trust with an eye single to the honor and glory of the profession.

A few of those who assisted in its organization in 1847, weighed down with honors and years, still make annual pilgrimages to this Medical Mecca and by their presence and counsel add increased interest to its meetings.

Chiefest among these is Nathan Smith Davis, to whom, more than any other, is due the credit of establishing and perpetuating this National Association—venerable, distinguished, renowned, may he be long spared to counsel and assist in the deliberations of the body!

The purposes of those who organized the Association were to protect and promote the interests of the American Medical profession, to maintain its honor and respectability, to advance its knowledge and to extend its usefulness.

That these desirable objects have been accomplished to a very great extent is a matter of history.

Through its moral influence it has united the great mass of physicians from Maine to Texas, and from the Atlantic to the Pacific in the bonds of fellowship, many of whom at great sacrifice of personal comfort and pecuniary interest, come to the annual meetings with hearty fraternal greetings for each other, and who, becoming touched

as with a living coal of fire, renew their vows of faithfulness and loyalty to the cause in which they are engaged, and form the high and noble resolve to devote their time, talent and lives with still greater assiduity to their chosen profession.

If the Association had done nothing more than to have accomplished this unification of the Medical profession, it would have performed a service entitling it to an imperishable name. It has, however, been an active and powerful agent in the promotion of medical science and in the dissemination of useful knowledge. It has excited a spirit of improvement among the masses of the profession which nothing can stay.

Another great benefit conferred by the Association was the establishment of an *esprit de corps* in the profession, by the preparation and adoption of a Code of Ethics which comprises the great principles of truth, honor and justice, in regulating the relations of physicians to each other, to their patients and to the public. It should be and is the written law clearly defined and of acknowledged force and effect that prevails from one end of the country to the other. It forms an impassable barrier between the sheep and the goats, the clean and the unclean, the physician and the charlatan.

The strict observance of the Code has done more than anything else to maintain harmony in the profession and to elevate it in the public estimation. It embodies the true spirit of the Golden Rule,—“Do unto others as you would have others do unto you.”

Every one who enters the profession should be provided with a copy of the Code and should make it the guide of his medical life. It will serve as a talisman to the young physician, and will be the best safe-guard against the snares and pitfalls which environ his pathway in his early professional life.

It would seem that every honorable and high minded member of the profession would be willing to endorse and be controlled in his intercourse with his medical brethren and the public by every article of the Code.

It is, however, to be regretted that there are some, who undoubtedly possess high order of talents, and are justly distinguished, who have an utter repugnance to the observance of certain parts of the Code and hold themselves aloof from the Association in consequence.

They, *probably* are as proud of our noble profession as we, and are equally as anxious for the advancement of its interests, but can they conscientiously affirm that the motives by which they are influenced are pure and unselfish? And should they, a small minority, put their opinion against the unbiased and unselfish judgment of the wisest and most experienced in the profession? And when, too, nine-tenths of that profession endorse

and are guided in their actions by the spirit and letter of the Code?

The chief object—indeed the fundamental idea of those who originated the Association was the improvement of the American system of medical education and the elevation of the standard of requirements for the professional degree. Never was there a greater expenditure of effort, illuminated with genius and learning, to accomplish these two great objects. Never was there more eloquent and philosophical reports to any organization than those presented by the committees appointed year after year, to this body; yet it seemed, after all efforts in that direction, as far from fruition as at its initial meeting. The resolutions proposed and adopted from time to time, were sufficiently pointed and admirably adapted to the end in view, but, unfortunately the Association had no legislative authority or power to enforce its enactments, and its moral suasion and influence was not great enough to move the college to accept their counsel.

In 1850 the medical colleges were invoked to meet and correct the great evils of the prevalent plan of teaching in this country, but they did not respond to the appeal. Since then, on various occasions, delegates from the medical colleges have met and discussed plans for the advancement of medical education but have failed, from want of coöperation and united action, to make the desired changes.

The idea of making such changes in the medical education of our youths in a country so diversified and of such extent, in a few years, was probably Utopian. Such radical and lasting changes can only be effected by the slow work of time. There has, however, been a gradual elevation in the standard of education, fully equal to the progress of the country in every other department of human learning.

To those of us who entered upon our medical studies twenty, thirty, or forty years ago it will be gratifying to visit any well organized medical college and witness the many improvements and the increased facilities for the instruction of its pupils. The extended curriculum of instruction, both in the didactic and clinical departments, the patient and painstaking work in the laboratories of Chemistry, Physiology, Pathology and experimental Therapeutics; the special instruction in the department of Surgery, Obstetrics and Gynecology and Ophthalmology; the resources afforded by hospitals and dispensaries, and the admirable arrangement for the prosecution of Practical Anatomy in the dissecting room, all attest the wonderful progress and advancement made in medical teaching since our pupilage.

I am ready to maintain that the advantages and facilities for medical instruction in our country even at the present time are quite equal to those

of any other, and that our medical colleges have produced as able, learned and successful practitioners as ever graduated from other institutions, and while I am willing to admit that our transatlantic brothers have excelled us in experimental work, we excel in all practical departments of medicine. Chassaiguac, the eminent Parisian surgeon, exclaimed a few years since, that America held the scepter of the Surgical world; and more recently Virchow, President of the late International Medical Congress, said, "The American Medical world to-day excels in Surgery, Midwifery and Dentistry."

What American physician is not overwhelmed with thankfulness when he remembers the pain and anguish which has been prevented through the great boon of anæsthesia, which in the providence of God was given to our country; who will ever tire of hearing of the great blessing conferred on suffering women by the genius and skill of McDowell, or of the marvellous changes made in Gynecological Surgery by the prolific brain and cunning hand of Sims.

Had America done nothing else than contribute these gifts to the world it would have been made famous for all time to come.

The great advance made in our medical education has been undoubtedly due to the frequent and very able discussions which have been held on the subject in this Association, and to the eloquent and philosophical reports of committees of education which have been so often appointed, and apparently with so little effect,—but the seed so wisely sown in the organization of this body have germinated and are now of hardy growth, and it is hoped in the near future will attain maturity and yield a harvest of abundant and perfect fruit.

The professional public have been aroused on the subject of a higher and better education than has been furnished by the old system, even, as improved by modern advancement. This professional sentiment has extended to medical teachers, and I believe that a majority of American medical colleges are now ready to acquiesce in the demands of the profession for a higher education, and that they will execute to the fullest extent the wishes of the Medical College Association as expressed at the meeting in Nashville last year. And when the medical colleges shall have entered upon the higher education which they have determined to do, the American Medical Association will have cause to congratulate itself in the accomplishment of the chief object of its organization.

The success of the Association in these and other purposes has been very great, even beyond the expectations of its most sanguine friends. "As a social and professional reunion of kindred spirits and great minds, its memories afford perennial

delight. It has given impetus to the progress of polity and science, it exercises moral suasion rather than authority, it has brought together a bright constellation of intellect, cemented the bonds of friendship among good men and true, and has formed a luminous track of light in the firmament of the Æsculapian heavens throughout the length and breadth of the land." It has passed safely through the perils of infancy, avoided the errors of youth, has entered upon the full estate of manhood, and now occupies an advanced position in the deliberative assemblies of the world. Constituted of delegates coming from every part of the country and representing every interest of the profession, it is really a great National Congress; it is the only legislative body of the profession which can regulate the action of its members and harmonize their conflicting interests; and it is full time that it should assume the power of legislating for the whole American profession and demand that its enactments be observed. That this power may be attained and exerted beneficially, greater efforts should be made to bring into the Association every prominent and influential member of the medical profession, especially those who have thought proper to alienate themselves from its deliberations. Let us ask them in the true spirit of conciliation to throw aside their narrow prejudices and renew their allegiance to the Association. Let us relegate all the asperities of the past to oblivion and remove the unpleasant feelings which have existed for the past four or five years, to the end that the medical profession of America may be, "Though distinct like the billows, yet one like the sea;" that it may be truthfully exclaimed, "Behold how good and how pleasant for brethren to dwell together in unity." Then, encouraged by the knowledge of the moral power of the Association, let us not be satisfied with what has been done in the past, but press on in the good work we have undertaken, toward perfection, securing as much beauty and finish for the body as is compatible with the imperfections of the human understanding.

Now that the College Association has adopted all the requirements for improved medical education, which the Association has been so long urging, and for which, in fact, it was established, it is eminently proper, and I would urgently press its importance on the members, to pass a resolution, that after the changes contemplated have gone into effect, no medical man who has received a degree from a college which has not adopted the improved method of teaching, and no professor nor attaché of such college shall be eligible as delegates or members of this Association.

This great moral support is due those colleges which so heartily took up the burden that the Association has carried for nearly half a century,

and I hope it will be cheerfully accorded them.

It is a well known fact that a very large proportion of the members of this body at each session, come from the vicinity of the place of meeting, many of whom have never been present at the sessions before, and are ignorant of the parliamentary usages of the body, or entirely indifferent what business is before it, or how it is disposed of. So that a few only of its members shape and conduct the entire business. Indeed, the transaction of routine business of the Association is uninteresting and irksome. Sometimes in the discussion unpleasant feelings are engendered and animosities formed which interfere materially with the harmony necessary for the welfare and usefulness of the Association. I would therefore respectfully suggest, that all business matters of the Association, should be referred without discussion or comment, to an executive committee composed of two members to be appointed by every State Society in affiliation with this body, who, after mature deliberation, shall report them back to be adopted or rejected, as the Association may determine; and that the morning session, which has been heretofore consumed in the transaction of ordinary business, shall be occupied in the discussion of living, burning questions selected by the business or the nominating committee, and that members especially qualified to discuss the questions chosen, shall be selected a year in advance, that they may be thoroughly prepared for the duties assigned them. Such discussion will be greatly conducive to the advancement of medical science and will attract a great number of the best medical men who are not interested in the routine business of the Association, and who are consequently never present at the meetings.

To still further promote science and add to the interest of this body, I would suggest that prize essays provided for in the organization, and for so long a time ignored, shall again receive the attention they deserve. I feel sure that it is the sincere desire of every member of the Association that it progressively improves in the quality of the work it presents to the profession from year to year. There is, in my opinion, no exercise which will add more to the interest of the Association, or do more to promote science, than the presentation of essays which will be offered in competition for suitable prizes.

In this connection it may be well to call the attention of the Association to the fact, that original research and experimental investigation have not received the attention from American physicians, which their importance demands. Living as we do, in a comparatively new country, our energies have been directed to the promotion

of the practical, and more directly, useful departments of the profession than to the minute investigation of scientific subjects; and our government, while the most liberal and best under the sun, has never seemed to comprehend that the cause of science, especially medical science, would be greatly advanced, and its own honor proportionately increased, by the establishment of schools for original investigation and experimental research. It has not kept pace with the other enlightened governments in scientific enterprises. It is hardly to be expected, however, that in the rapidly changing political dynasties, the attention of our legislators could in the near future be directed to the advancement of pure science. This must, for the present, at least, be left to the progressive spirit which animates our universities, and to private laboratories which are being established in different sections of the country. Would it not be advisable for the Association to establish a Section of Experimental Research, to which young and enthusiastic devotees might be encouraged to make and repeat experiments in all the departments of medicine? It would certainly form a very interesting and useful Section, and would tend to advance science and add greatly to the interest of the Association.

It was a happy conception of one of our most distinguished presidents to make the establishment of an Association Journal the burden of his inaugural address, and so powerfully did he impress its importance upon the minds of the members of the Association, that a committee was at once appointed to take into consideration his suggestion, with the result that a weekly Journal was established to take the place of the annual volume of Transactions. That the change has been a valuable one none will deny. It has asserted and maintained the honor, dignity and power of the medical profession as a factor in civil life; it has tended to enlighten and strengthen the profession, and to lead it in the proper direction. Its design has been to represent in the broadest sense the true status and progress made in this country and to give expression to the thoughts, purposes, and will of American physicians. It has in the short period of its existence given evidence of its power in the advancement of its purposes. Yet it must be acknowledged, notwithstanding the great learning and untiring energy of its editors, together with the faithful coöperation of its trustees, that it has never attained the ideal excellence which should characterize the organ of this great body of physicians. It may require years to bring it to the desired standard, and it should be determined here to-day, that every effort shall be made to advance it to the highest standard. To effect so desirable an object it is necessary to make provision for an ample annual income.

Nothing less than from seventy-five to one hundred thousand dollars should be considered ample. To many, this sum may seem chimerical, but it is not. If every member of this body would constitute himself a live, active agent to solicit subscriptions from his brother physicians living in his vicinity, and to assure himself that *THE JOURNAL* is on the table of every doctor within his reach; and if to this is added the income which may be derived from legitimate and properly selected advertisements, the necessary fund will be assured.

Next in importance to finance, is the selection of an editor, able, learned, highly educated, with ample editorial tact and business qualifications, who will devote all of his time and talent to his editorial duties. He should be empowered to spend money liberally in obtaining scientific material, original communications, translations and reviews from every part of the world. He should have absolute control in the selection of matter for *THE JOURNAL*; he should manage *THE JOURNAL* boldly, vigorously and with an eye single to the honor and glory of the profession.

To such an editor a salary should be given which would make him independent in a pecuniary point of view. Not less, I would suggest, than ten or fifteen thousand dollars should be paid to him annually. Then, with elegant paper, perfect typography and attractive binding, *THE JOURNAL* will add lustre to the Association and honor to the profession.

The necessary fund, which can be easily raised by proper exertion, will not only sustain *THE JOURNAL* in the best style, but will afford a sum in addition which can be used in many ways to the advantage of the Association.

The future location of *THE JOURNAL* is a matter of such importance as to require our careful consideration and mature deliberation. Its weal or woe may depend on the action of this meeting.

At an extraordinary session of the Board of Trustees of *THE JOURNAL* called to meet in Washington city last November, it was determined to submit the question of its removal from Chicago to Washington, to the action of the members of this session.

I would beg the delegates and members of the Association to consider well every side of this question before they commit themselves to a vote, and not act too hastily in the matter. *THE JOURNAL* has now had its home in Chicago for eight years. Its development and growth has been wonderfully rapid. It has already become the peer of any of the great weeklies of the country and if properly sustained by the profession and wisely and energetically conducted by its managers, it will become the recipient of the best thought of our own country and be the worthy exponent of the American profession. It is free from debt

and has funds sufficient to close the financial year and still leave a satisfactory balance in the treasury. It has been proven that it can be more economically published in Chicago than in Washington. The Board of Trustees several years since solicited and obtained estimates from two or more publishing houses in Philadelphia, Washington, New York and Chicago. These estimates were uniformly highest in Washington and lowest in Chicago.

Chicago is a geographical and railroad centre not excelled in facilities for rapid mail distribution. It is also a great medical and surgical centre and can place at the disposal of THE JOURNAL a wealth of resource, second to no other city in the Union. It is the best place for advertisers to reach the profession in the Mississippi Valley and the great North-west, and if THE JOURNAL should be removed to Washington, it will lose many very lucrative advertisements and will be brought into direct and sharp competition with six important weekly journals, several sustained by large and influential book houses, which occupy the field between Washington and Boston.

Washington is in no sense an important scientific, educational or professional centre; but it is the great centre of American politics, to which everything is made subordinate; and it would be impossible if THE JOURNAL should be published here, to prevent its becoming contaminated by the political air, with which it would be surrounded. Washington has never been a healthy locality for medical journals, for every journal which has been published within its boundaries, has died early from inanition. I do not think that it is a better locality than Chicago that is wanting, but a better Journal than we have.

Let us then as members of a profession engaged in the most beneficent and humane calling known to man, in the language of the immortal Jackson, swear "by the ETERNAL," that THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, wherever it may be located, shall be made and kept equal in excellence with any journal published in the world.

It is now time to enter upon the duties which have called us together. Let us endeavor to discharge them in a spirit of conciliation and justice. Let us act with such prudence and judgment in this meeting as will tend to unite more closely the members of this great National family. Let us not forget how rich an heritage has been bequeathed to us by our predecessors which we should make more valuable and transmit to posterity. Let us indulge the hope that our labors during the present session will not only sustain the advance already made in medical science, but will carry us still further onward in the great road of progress.

THE ADDRESS ON SURGERY.

Delivered at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D.C., May, 1901.

BY JOSEPH M. MATHEWS,
OF LOUISVILLE, KY.

I am familiar with the fact that it is expected that the general address on surgery read to this Association shall be a *résumé* of the advances made in each and every department of the science and art of surgery, since the previous meeting. To have gone over this entire field would have consumed more of your valuable time than you would like to grant, and involved a task too burdensome for me to undertake. I, therefore, determined to select some single subject for my address. I was then confronted by the fact that every single subject of importance would be fully discussed in the section on surgery; hence I was embarrassed in selecting one, for the reason that I wished to edify rather than fatigue you. This, then, was the rub. Having confined myself for fifteen years to a special line of practice, it occurred to me that it would be best to select some subject relating thereto, and give my individual opinion and experience in regard to it. Then, too, I had the consolation of believing that no paper of a similar topic would be read before the Association. I have, therefore, selected as my subject, STRICTURE OF THE RECTUM—ITS ETIOLOGY, PATHOLOGY, SYMPTOMOLOGY, DIAGNOSIS AND TREATMENT.

I realize, in discussing this subject, I shall take positions contrary to the accepted teachings of the day, but I shall not beg for pardon for so doing. I take it that the one great object of the meetings of this Association is to elucidate and discuss subjects that are in doubt, those that are mooted, not admitted. The caption of my address may sound homely, but the importance of it as a surgical subject should commend the respect and attention of every surgeon here. Its frequency, its terrors, and its dangers, appeal to us for relief.

Etiology.—The following classification of the varieties of stricture of the rectum is given by Dr. Kelsey. I believe that for my purpose it is the best classification, as it embraces the varieties as given and agreed to by many different authors.

Congenital:

1. Complete,
2. Partial.

Acquired:

1. Spasm. a. Dysenteric.
2. Pressure from without. b. Tubercular.
3. Non-venereal. c. Inflammatory. d. Traumatic.
4. Venereal. a. Ulceration (either chancreoid, secondary or tertiary.)
5. Cancer. b. Due to unnatural vice. c. Neoplastic (gummatous, anorectal syphiloma.)

The first great division, it will be noticed, is congenital and acquired stricture. In writing of, or dealing with stricture, the idea intended to be conveyed is of a pathological change in tissues,

etc., a deviation from the natural brought about by disease; hence I object to the consideration of congenital malformations of the rectum, or to define them under the head of strictures of the same, for the reason that it is misleading to do so. It will be more to the point to call these, atresias of the gut. Therefore, I shall dismiss this part of the division that he has made. Indeed, exception could also be made to the second division of this grand classification, namely, acquired. I am aware of the fact that the term is often used in the sense herein applied, but to my mind a better term or classification could be used. It is very easy to understand how one can acquire a stricture, the result of venery, but it will be difficult to understand how one could acquire a spasmodic or cancerous stricture. But I will adopt, for the sake of discussion, the above classification, leaving out the congenital variety.

1. *Spasm*.—To this form of stricture I shall prefer two objections. First, if it be true that such condition ever exists, which I doubt, then it should not be classed as stricture at all, for the reason that no pathological change is manifest to constitute a stricture, and no treatment could be given it *per se*. In other words, it would be a symptom of some lesion or trouble outside of the one called stricture. Second, I believe that from the anatomical construction of the rectum, it would be utterly impossible for its lumen to be so constricted as to be perceptible as an obstruction, by spasmodic contraction of its muscular fibres. I might add as a third reason, that in all my examinations of this part of the gut, I have never seen a spasmodic contraction that could be called a stricture.

2. *Dysenteric*.—Although it is frequently stated that dysentery is a common cause of stricture of the rectum, I have never seen cases sufficient to convince me of the truth of the statement, indeed that it was a cause at all. I have many times seen patients who gave me a history of having had dysentery and were treated for a long time for the affection, but a close scrutiny of the case revealed the fact that the so called dysentery was caused by an already existing stricture and ulceration, the rule here being reversed,—that dysentery was the result, not the cause. If dysentery really be a cause of stricture of the rectum, how very often we would expect to meet with it in our practice, considering the great number of people who have dysentery, especially in the warmer climates. Again, practitioners of medicine know that ulceration proper very seldom exists in the rectum during or after attacks of dysentery. The sloughing in these cases occurs from the gut above the rectum. I do not deny, but I am not convinced, that ulceration may sometimes be caused by repeated dysenteries or diarrhoea, but my experience has not taught me that they are frequent, by any means. If a long continued irritation is

kept up in the rectum, from any cause, the result would be, of course, an inflammatory exudate, resulting perhaps in ulceration and stricture; but I must confess that in searching for this as a cause, the road to a conclusion has not been plain enough for me to put dysentery in the list as a cause at all for stricture of the rectum. If this disease is a common cause of stricture, as asserted by so many, it occurs to me that the trouble would be often found in the veterans of war. Indeed, I could not imagine a more ideal case for a pension than the existence of stricture of the rectum, the result of a dysentery contracted while in the service. Yet the pension records are singularly silent on this point. At a late meeting of the Louisville Clinical Society, Prof. John A. Ouchterlony, a distinguished pathologist and teacher, in discussing the subject of stricture of the rectum, said:

I call to mind a dead house experience extending over many years. During the war I made post mortem examinations upon hundreds of cases who died of dysentery, the most malignant forms of the disease, as all will attest whose observations extend back to war times, and I cannot remember to have ever seen a stricture of the rectum as a result of dysentery. In the two hospitals, to which I was pathologist, there were eleven hundred and fifty beds, and we sometimes made as many as five or six post-mortems a day. After the close of the war, I was for many years pathologist to the City Hospital, but in all my dead house experience, I never saw a stricture of the rectum caused by dysentery.

These are the remarks of a very close observer, and my experience certainly coincides with his.

3. *Tubercular*.—Since the discovery of the tubercle bacilli, and the demonstrations that convince us of the effect on the tissues, etc., it is self evident that tuberculosis is often met with in the mucous membrane and the structures of the rectum. If stricture and ulceration is the term used, I could make no objection to the classification of tuberculosis as a cause of ulceration. That ulceration frequently results from this diathesis or dyscrasia no one could doubt, but that the coincident stricture follows, as from other well known causes, notably syphilis, I cannot agree. The disposition of tuberculous tissue everywhere is to break down. Before the capacious rectum is filled with tubercular deposit sufficient to stricture it, it will have broken down from ulceration, etc., and it must be by deposition only that we can conceive of stricture from this cause; because cicatrization is so seldom, and so feeble, in these parts that it would be the rarest accident to find it. In no instance have I ever seen a stricture of the bronchi as the result of tuberculosis. There would be just as much reason to expect it here, or indeed more so, than in the rectum.

4. *Inflammatory*.—This term is so broad and comprehensive that we must perforce of reason admit it as a cause of stricture of the gut, indeed as the one grand and common cause; for if stric-

tures exist from whatever cause, be it trauma, pressure, venery, dysentery, cancer, tubercle, syphilis, ulceration, or what not, it is inevitably due to the processes and products of inflammation—in no other way can a stricture be formed. It might be argued that a lesion or wound existing in the bowel by the reparative process heals and leaves cicatricial tissue, and that stricture was the result of the cicatrix, and not to plastic infiltration of the tissue. In answer, I would say that there could have been no cicatrization if there had been no inflammatory process. Hence, inflammation being the cause of the cicatrix, was in truth the cause of the stricture. It is said, "Any severe form of proctitis resulting in ulceration may be a cause of stricture." To this I freely assent, but the most difficult part of the whole matter is to tell the cause of the proctitis, which is inflammation. It is not to the proposition that I object, but to the supposed cause. For instance, in naming several, the following is given as a cause of stricture: "Erosion and ulceration of hæmorrhoidal tumors." Now, in the nature of things, how can this be true? A hæmorrhoid is, in fact, a tumor, and by friction the mucous membrane on the tumor can become ulcerated. Suppose it does, how can that ulceration produce a stricture of the rectum? As we have intimated, strictures may result from two pathological conditions. First, from a deposition of plasma, causing an obstruction, or second, by cicatrization, causing a stricture. Can either of these conditions result from hæmorrhoidal tumors being ulcerated? Certainly not. The inflammatory deposit would only involve the tumor, and a cicatrix on top of a pile would not amount to a stricture.

5. *Traumatism*.—Under this head the authors include ulceration following operations or wounds of the rectum, and cite the surgical operation done for hæmorrhoids and fistula in ano. In all my practice, I have never seen such result follow either operation. I can understand how the cicatrix resulting from the removal of too much skin from the anal region might cause a stricture of the anus. My friend Dr. W. O. Roberts, of Louisville, has told me recently, of operating upon a patient of this kind, the original operation for hæmorrhoids having been done by an inexperienced hand. I cannot understand how a surgeon used to operating in this region, would do an operation that would result in a stricture. But traumatic strictures are, in fact, inflammatory strictures. Inflammation is the result of trauma, so one class would include both. For brevity, this would be best.

6. *Veneral*.—"Without admitting too much," says one author, "it may be safely said that, beyond dispute, there are three forms of well recognized venereal diseases in the rectum, which may result in stricture. These are chancroidal, secondary and tertiary ulcerations, either simple, trau-

matic, or the result of direct inoculation, and an unusual form of tertiary disease of the general nature of gummatous deposit variously described by different authors, and by Fournier as ano-rectal syphiloma." This author leads us to infer that these three venereal causes, namely chancroidal, secondary and tertiary ulcerations, are the most infrequent way that stricture of the rectum can be produced by venery. Allingham reports that out of seventy patients suffering with stricture of the rectum, thirty-five of them had a history of syphilis. I have frequently said that I believe that more than one-half of the strictures met with in the rectum were the result of syphilis. I have often asserted that in no single instance have I ever seen a stricture of the rectum caused by the healing of a soft sore. I do not believe that it can occur. In this opinion I am partially sustained by Allingham, James R. Lane, Alfred Cooper, Coulson, Christopher Heath and others. These three causes are alleged by many to produce their effect by simple trauma or direct inoculation. Neither of these can be true. If so, certainly not one in ten thousand cases. Granting that the soft sore could produce an ulceration that might end in stricture, how, I would ask, can the aforesaid pus get into the rectum? It may have occurred, it is not impossible, but granting that it did by direct contact, I do not believe that it would result in a stricture. Instead of secondary syphilis being an unusual cause of stricture of the rectum, I assert that it is the usual and only form that we find this disease producing or causing stricture of the rectum. Ricord, Fournier, Heath and others believe this, and Mr. Bryant, in his excellent practice on surgery, ascribes these ulcerations and strictures of the rectum as "mainly syphilitic," and says: "Foreign authors describe chancroidal diseases of the rectum, venereal but not syphilitic. In this country it is hardly recognized." I certainly agree with this author. To conclude, if I were asked, what is the prime cause of stricture of the rectum, I would answer *inflammation*. But what causes the inflammation? In many cases I do not know, but ordinarily syphilis, cancer and trauma—if by trauma can be meant a wound or lesion from any or many causes. Outside of the two first named, cancer and syphilis, I am satisfied that no one can tell the cause that originates the stricture. I wish to reiterate, that outside of these two well recognized causes for stricture of the rectum, I am not prepared to admit any other as a well known, recognized, indisputable cause.

Pathology.—In delivering the Bradshaw lecture before the Royal College of Surgeons, London, Mr. Thomas Bryant selected as his subject, "Colotomy." He said:

But as a means for giving relief to patients from chronic intestinal organic ulcerations or obstruction from whatever cause, colotomy was generally, and indeed I may

say is still, too much regarded as a *dernier resort*, and as a consequence, it was, as a rule, only carried out when all other measures had been tried and proved to be useless. This position I, in common with some few other surgeons, have, however, never accepted. We have regarded it as the best means the surgeon has at his disposition for the relief of rectal obstruction from cancers and every disease which is not otherwise removable, and experience has proved that life may by it be saved, when the disease is not cancerous, and prolonged even for years when it is so.

Turning to page 605 in Wyeth's Text Book on Surgery, we read: "In stricture of the rectum, when all other measures fail, colotomy is the last resort." Here are two diverse views, by two very distinguished authors. Which is correct? I am decidedly inclined to Dr. Wyeth's opinion (if colotomy is performed at all), and although he has been content with the bare statement, without argument, I shall in a few words give you my reasons for differing from Mr. Bryant, in his statement and proposition. I quite agree with him in the preference given to lumbar over inguinal colotomy, but I beg to differ as to the need for the operation, and base my belief on the pathology of the disease. Instead of admitting his premise that colotomy is called for the relief of rectal inflammation by cancer and other diseases, and should be performed early in the disease, I shall contend that such a procedure is warranted only in the rarest cases, and then as a *dernier resort* only, which he denies. My conclusions are based upon an observation of several hundred cases of so-called obstruction of the rectum. I shall not found my objections upon the dangers that attend the operation, although every surgeon will admit that some danger attends it. I recognize the fact that, under antiseptic surgery, the mortality attending these, as well as all other surgical operations, is reduced. However, this admission plays no part in rebutting other arguments that are urged for the operation. I will be permitted to remark that, in my opinion, it has become too much the custom, or fad, to do this operation in cases where there is no possible chance of doing the patient any good. Indeed it has become so common, that the moment cancer of the rectum is diagnosed, colotomy is resorted to. Mr. Bryant states two distinct propositions, namely, "First, the immediate success or failure of the operation turns but little upon the operation itself, if well performed, but upon two main points, the first being the local condition of the bowel above the seat of obstruction, and the second, upon the general condition and age of the patient."

Some surgeon once said, that the reason laparotomies for gunshot wounds showed such a low per cent. of recoveries, was that too many were attempting the operation. Mr. Bryant can very well say that the immediate success or failure of colotomy turns but little upon the operation, if it is well performed. The trouble is that if his

premise be true, that this operation should not be considered as a *dernier resort* in stricture of the rectum, but that it should be resorted to early in the disease, and is the best of all procedures, too many men, accepting his dictum as true, will be doing the operation, when less dangerous methods might accomplish the same results. As to his two main points to be considered before doing the operation, first the local condition of the bowel above the seat of obstruction, I take it that he means whether or not the bowel above the seat of obstruction is invaded by the disease, or if, in consequence of the disease below, has suffered. In my opinion it would have been more to the point to have said, the local condition of the bowel both *above* and below the seat of obstruction. He says: "If from procrastination, serious intestinal changes have taken place before relief is present, recovery is hardly to be expected." Now I suppose that the distinguished author refers here to cancer or syphilis as the serious causes of intestinal changes. It is quite agreed that these two diseases account for fully two-thirds of the obstructions or strictures of the rectum, which, as Mr. Bryant and others would say, would call for colotomy. Suppose the gut above the stricture was not invaded or changed at all, but that below the stricture, incipient it may be, there is a slight infiltration by cancerous deposit, is the operation justifiable? I certainly cannot agree that it is. It is admitted that a colotomy is a loathing and disgusting thing. Patients with cancer of the rectum live from three to six years. Many in my practice have lived five years after the disease was first observed. Why subject these people to such an operation during the incipency of the disease, when it does not stop it? Again, are we quite certain that there is an infallible sign of cancer? In quite a number of cases I have taken specimens from rectal growths, had them examined by microscopists, and pronounced cancer, whose subsequent history revealed the fact that it was not cancer at all. Then, too, in the early stages of cancer, there is not sufficient clinical evidence to base an opinion upon. Certainly for a benign and incipient stricture, or obstruction, if you please, in this locality, colotomy would not be advised.

Again, if the disease be cancerous, in its incipency, or otherwise, can the operation of colotomy cure it? It might be, as Mr. Bryant suggests, the operation could be done much more successfully while the general health is in good condition, but it is not whether one can perform colotomy successfully or not, the prime question is, what good will it do? A surgeon may do a beautiful operation for stone in the bladder and get the stone, but the patient dies. How then, I would ask, can the establishing of an artificial anus in the side, in any way cure or arrest the in-

roads of cancer in the rectum. If, then, it is granted that the disease being constitutional will go on regardless of the opening in the side, I would ask can the colotomy prolong life of the cancerous patient? In no way possible can it do so, but one, that is by preventing one source of irritation, namely, the passage of feces over the cancerous mass. The argument would be, the more irritation, the more deposit.

In my opinion, this is of very little importance, or consideration in cancer of the rectum. Malignant growths increase by an inherent power, a deposition, infiltration, etc., intrinsic, not extrinsic. They will exist in the rectum a long time, acquiring a great size, involving, perhaps, the whole circumference of the gut before the mucous membrane is ulcerated, notwithstanding this "great irritation" is constantly kept up. I dare say if a cancer of the same kind and proportion, in the same character of subject, could be watched each day, in one colotomy had been performed, the other without, that no difference could be observed in the rate of progress that was being made. I am forced to this belief after an observation of many years, covering many cases. As I have before stated, my patients have generally lived from four to six years with cancer of the rectum, without colotomy. Do they live any longer with colotomy? In other words, can any one say, because, colotomy being performed, a patient lives four or six years, that the colotomy was the cause of prolonging his life?

Again, it is claimed that by colotomy much of the pain is the rectum is relieved, in that the feces having been directed from their natural course. In some instances this may be true, but the rule will not hold good in all. I have known patients to suffer equally as much with pain after, as before the operation, nor is it always true that the feces are diverted from the natural channel. Much discomfort is often complained of by the patient, after a colotomy, from the feces lodging in the mass, or strictured surface.

In a paper read by Mr. Jessop, on the treatment of cancer of the rectum, at the Leeds meeting of the British Medical Association, he said: "In cancer of the rectum, the constriction in the majority of cases can be got over for a time, by injections, the introduction of the finger, or bougies, the use of laxatives and the like." This has certainly been my observation. Indeed I have seen many cases where the patient never complained of even constipation or obstruction. Add to this that many patients of the kind complain of but little, if any pain, especially if the growth is situated above the sphincter muscle, it lessens the cases materially which would call for colotomy.

I cannot agree with Mr. Bryant in his statement that the operation is demanded for the purpose of relieving the local distress, admitting, as

he does, that when the disease is in the lower part of the rectum that obstruction seldom occurs. I have seven cases of cancer of the rectum now under observation, and in but one is pain a factor at all. Admitting that pain is a prominent symptom, colotomy does not bring that radical relief which would justify its being done. We have in opium a remedy which will quiet pain effectually, and if the argument be used that we would make an habitué of the patient, I would remark, what is the difference if he is to die so soon? As I have observed, pain in cancer is inherent, caused by the local affection of the nerves, and is not controlled by extraneous circumstances. Hence, of what account is opening the gut at a distant point, if pain is not a great factor in the disease? If, in answer, it is said that it prevents the irritation and pain caused by the passage of the feces, I would answer that in many cases this does not increase the pain, and if it does, dilatation will materially prevent it. I saw, this day, in consultation, a lady whose lower rectum, including buttocks, labia, etc., were involved, the gut for six inches tightly strictured, and when asked how much pain she suffered, answered, "Oh, very little," and said that the fecal discharges caused her no trouble.

If, as some would have us believe, colotomy would prevent the extension of the disease, and its consequences, such as involvement of the bladder, vagina, etc., I would ask how is colotomy to prevent it? It is not the passage of fecal matter over the affected parts that causes this result, but rather the nature of the disease to infiltrate, and break down the tissue. If a cancerous growth is situated above the sphincter muscle, its tendency is to extend upwards, and in this event pain is not great, unless some other organs are affected. It is not uncommon that patients come to my office to consult me for some trivial rectal affection and I find, upon examination, a cancerous mass, extending all around the rectum, pain being scarcely a symptom in these cases. Of what value would colotomy be here? Hence I am forced to the conclusions that the operation is not warrantable simply because cancer is found in the rectum, either in an incipient or confirmed state; nor for the relief of pain simply, unless other complications exist, for we have medicines that will relieve pain; nor to prevent invasions by the disease, because it would fail of its purpose. Infiltration and pathological change cannot be overcome by colotomy. Nor for obstruction or fear of obstruction in the lower rectum, because, as Mr. Jessop says, this obstruction seldom takes place, and if it does, it can be relieved by dilatation and other methods. Lastly, I do not believe that colotomy should ever be done for the obstruction of the rectum by cancer, save, perhaps, in a few exceptional cases, and then only as a *denier resort*. Yet in every instance before

the operation is done, the nature of it and its consequence should be fully explained to the patient, with the assurance that it cannot possibly effect a cure. It is a well recognized fact that colotomy is advised and practiced by many, for other ulcerations and constrictions of the rectum, beside those of a cancerous nature. Except under certain conditions, I shall object to this procedure with just as much emphasis as to the operation in malignant stricture.

I have stated, in this article, that I do not hold to the theory of chancroidal ulceration, as so vehemently advocated by Zeigler, Mason, Kelsey, Gosselin and others. My reasons have already been given, but I do hold that syphilis is responsible for more than one-half the cases of stricture of the rectum, and in the manner I have described. But to do a colotomy simply because a patient has a syphilitic stricture of the rectum, is, I believe, unjustifiable. As a proposition, then, I shall maintain that where a syphilitic stricture or strictures exist in the rectum, located within four inches of the external sphincter muscle, colotomy should not be done. In supporting this statement, I desire to say that in my opinion, a stricture located within the distance named, can be treated more successfully by other methods.

Before leaving the subject of colotomy, as one of, if not the most important of all methods of treatment for stricture of the rectum, from whatever cause, I beg to call to mind that the statistics of Erckelen carefully compiled in 1884, and shown by Treves that 38 in every 100 cases of lumbar, and 46 in every 100 cases of iliac colotomy died within twenty-one days after the operation. This statement speaks for itself. Stricture from benign causes located within the distance that I have named, should be dealt with in a similar way.

Symptoms.—The early symptoms of stricture in the rectum are very obscure and confusing. Indeed no stricture exists at all in the pathological changes going on in the gut which conduce to this state. The great trouble is that the early symptoms are so masked or entirely *nil*, that no attention is paid to them by the patient, that when he is forced to consult a physician a very decided stricture may exist. The changes made manifest in the rectum are those of inflammation and, if from cancer, the condition of the blood vessels, and the gradual deposit of the morbid material, together with infiltration of the tissue, goes on so slowly and insidiously, that for a long time there are really no symptoms. I have seen many cases where the first symptom noticed was a so-called constipation, obstipation would be a better word, and upon the introduction of the finger a tight constriction could be felt. This may apply to any form of stricture. I have under observation now three cases of this kind. The first symptoms of stricture then are not the

discharge of bloody pus, etc., indicative of ulceration, that some describe. Therefore, I must differ from those who place the symptoms of ulceration first, and those of constriction afterward. Ulceration cannot take place, together with the symptoms incident thereto, a discharge of blood, pus or muco purulent, until the changes of inflammation have been such that the mucous membrane and sub-mucous tissues have undergone that change which constitutes ulceration. When this latter condition is established, we have the characteristic discharges—diarrhea, flatus, the muco-purulent discharge, or rather a muco-bloody discharge first, succeeded eventually by a purulent discharge, and alternating diarrhea and constipation. The bearing down sensation, together with tenesmus, a reflected pain to the back and down the thighs, an irritation of the kidneys and bladder, and uncomfortable feeling always about the rectum. A passage of small bits, or tape-like actions, are all indications of the disease. I am persuaded that oftentimes stricture is diagnosed from this characteristic tape-like action, when in reality the moulding is done by the sphincter muscle in an irritable state, and that no stricture in reality exists. I am satisfied, too, that many cases of so called chronic constipation are due to a narrowing of the lumen of the gut from this cause. This has occurred so often in my practice that I am now in the habit of examining the rectum in every case of chronic constipation. This same rule holds good in cases of supposed dysentery, for, as I have observed, dysentery is but one of the symptoms of stricture, and caused by it.

I have had but two cases of acute obstruction caused by the chronic condition of the stricture. One in the case of a young lady who failed to report to me as often as necessary for a dilatation of the stricture (she would not consent to an operation) and during a summer outing took sick and died from an acute obstruction. The other was a young married woman, in the practice of one of our local physicians. An operation with the knife relieved her. Acute obstruction, as the first symptom of stricture, I have never seen, although I have examined a number of patients who complained of constipation only, who upon being examined, showed a decided stricture that the smallest finger could not pass. In one instance I found a close stricture at the entrance of the sigmoid flexure. It is truly wonderful to see patients who have strictures of the smallest calibre, who seem to enjoy perfect health, and whose physical proportions and development are not hurt in the least. It must not be forgotten, however, that these are dangerous conditions and constantly imperil the life of the patient.

Diagnosis.—When the stricture is within four inches of the sphincter muscle, it is easily diagnosed, be it malignant, benign or syphilitic—the

finger will detect it. It is a very different matter, however, to determine its character, and yet, to a certain extent, the treatment depends upon it. I desire to quote from Kelsey the following statement:

There is an old and deeply rooted idea in the minds of the profession, that a stricture of the rectum must be either cancerous or syphilitic—an idea founded on error and capable of doing much harm and injustice to innocent people. Again and again I have been able to give great comfort to women suffering from this disease by denying the correctness of this idea, and in my own practice, the fact that a stricture is not cancerous adds little weight to the idea that it may be syphilitic.

This is so diametrically opposed to my views and observations that I desire to say that, in my opinion, fully sixty per cent. of the strictures of the rectum are due to syphilis. Not venereal in the sense that many would have us believe, namely: by the infection of the rectum by cancerous pus, or by direct contact, but as a secondary deposit, the result of constitutional disease. There are but few authors to day that deny this fact, but in admitting it, class these as exceptional cases. By a late estimate it is calculated that five million people in the United States are subjects of constitutional syphilis. If it is admitted that one single case of stricture of the rectum can result from this constitutional disease, it admits the argument. Then taking into consideration the great number affected with it, is it any wonder that we should have the per cent. named as suffering from this manifestation in the rectum? Mr. Allingham, in tabulating his cases of stricture, says: "Thus out of the total number of 99 patients, 52 or more were syphilitic."

As a means of diagnosis, the clinical history and observation of the case has much to do with forming a correct opinion. If it is ascertained that the patient has constitutional syphilis, I would consider that it was a strong point gained. I do not wish to be understood as saying that in every case where both syphilis and stricture exist, that the latter was caused by the former, but undoubtedly in the vast majority of cases this is true. Indeed, so firm am I in this belief, that if it is a question between cancer or no cancer, and it is decided that it is not malignant, 99 out of every 100 cases will prove to be syphilitic; for the reason that stricture, the result of benign ulceration, does not resemble in the least stricture from malignant deposition. To the contrary, syphilitic stricture does, to a degree, in its pathology, resemble malignant growths. To be plainer, malignant disease, and syphilitic disease, invade the rectum as a deposit, infiltration of the sub-mucous tissues, etc. Ulceration here is secondary to the deposit caused by the friction of the passage of feces, or the breaking down of the tissue, the result of the disease *per se*. Benign ulceration begins with the damage done to the mucous membrane, and the plastic infiltration is secondary to

it, the reverse of both the malignant and specific disease.

Again, as a diagnostic symptom, the touch reveals a great deal. Allingham says: "There is something peculiar about the feeling of cancer, which the operator's finger rarely mistakes even for simple indurated ulceration." This is the fact, yet if I was called on to describe it, I could not. It is said by many authors that the peculiar smell or odor of cancer is pathognomonic. I am certain that I have seen many cancers that did not evidence this peculiar odor. Great stress is also laid on the disposition of malignant growths to bleed, especially when touched or handled. I am just as sure that I have seen many cases of cancer that had no such disposition. The swollen or enlarged glands in the inguinal region cannot be taken as a positive sign or indication of cancer in the rectum, from the fact that they are swollen in many cases of benign ulceration and inflammation. I will again state that pain, in my opinion, is made too great a symptom of cancer. It depends altogether upon circumstances whether it exists to any degree or not. In cancer the nodular form of the mass is more apparent than in any other trouble. In syphilis, the induration is more even and extends with more regularity, and after a time is of a fibrous character and is so indicated to the touch. In simple ulceration, the stricture is apt to be annular.

As a method of diagnosis, I object to the use of rectal bougies, either metal, soft, or hard rubber, to which so many authors call attention. They are exceedingly dangerous, and accomplish no earthly good. I have known two patients killed by the attempt to introduce the common hard rubber English bougie within a stricture of the rectum. The common seat of stricture is within reach of the finger. It is the rarest thing that one is ever found in the movable gut. Granting that one exists there, if there is not a total obstruction, what is the use of an exploration with a dangerous instrument, when the finding of the stricture, or the supposed finding of it would result in no good. A stricture located in the movable gut cannot be dilated. If it be total occlusion or obstruction, it calls for very different treatment from this.

Treatment.—In considering the treatment of this very formidable disease, I shall adhere in the strictest sense to the pathological condition, namely, a stricture. This entirely rules out the treatment of proctitis, or the subsequent ulceration, which is one cause of stricture, and brings us directly to the means of treating that which is the result of said causes. It must be granted that many times ulcerations, which would eventuate in stricture, are cured before that condition results. This cannot hold good in cancer. Can it in syphilis? I doubt it. In the great majority of cases, we are confronted at the onset with stric-

ture, not with the ulceration, so insidious is the disease. The methods practiced to-day for treating stricture of the rectum are:

1. Dilatation.
2. Incision
3. Electrolysis, and raclage.
4. Excision.
5. Colotomy.

Of course, under the division I have made, we rule out general treatment.

Dilatation.—Kelsey in speaking of dilatation, says.

"By dilatation I mean gradual stretching, not forcible division," and adds that the latter is seldom applicable. I must dissent to these views. The gradual dilatation of stricture is objectionable, for the reason that by this form of repeated irritation, more plasma is thrown out and the strictured surface increases. It may be true that some temporary relief is afforded, but upon the contraction of the tissue, which is sure to take place, we have lost more than we have gained. I do not hold to the view that by the passing of bougies through the strictured surface absorption of the tissue is caused, I believe that the converse is true. Why forcible division is seldom applicable in these cases, I cannot understand. If a fibrous stricture exists, I am sure that forcible division is the best method. In other words, we do, in a few minutes, by immediate dilatation, what it would take weeks to accomplish by gradual dilatation. The fear, in the past, has been hæmorrhage in this operation. To-day we do not fear it, because we understand how to control it. Therefore, I would put but little stress, or no stress at all, upon treating stricture, of whatever kind, by bougies. In fibrous stricture it would do no good; in the malignant one, it would be dangerous. I have abandoned their use altogether.

In 1878 I read a paper before the Kentucky State Medical Society, in which I reported a case of close stricture at the entrance of the sigmoid flexure. The plan adopted was to break the sphincter muscle, introduce the hand and arm into the rectum, and reaching the stricture, which barely admitted my index finger, I made a cone of my four fingers and forcibly pushed them through the stricture. It gave way before them, and although great shock supervened, the recovery from immediate danger was effectual. I am satisfied that a more perfect and radical relief was obtained than if I had done colotomy. Gradual dilatation here was out of the question. I am very positive then in saying that if dilatation of a stricture of the rectum is decided upon, let it be a forcible and radical one.

Incision.—I am very partial to incision, or incisions, for the relief of stricture of the rectum. Of the two operations recommended, internal and external posterior linear proctotomy, I much prefer the internal. It is urged for the external,

which consists of not only going through the strictured surface, but also in dividing the sphincter muscle, that it is all important to get the necessary drainage. I do not think so, and if I did, I believe the ill-effects of dividing the sphincters outweigh the matter of drainage. I cannot believe that the internal incision is as dangerous as it is represented to be by some authors. My plan is to introduce a three or four valve speculum, and, after dilating sufficiently for the purpose, a long sharp knife is used to divide the constrictions of fibrous tissue, down to a healthy base—not only in the median line, but in several places around the circumference of the gut. I then place a tampon, through which I have inserted a metallic tube for drainage, and the escape of gases. This tampon is aseptic, and usually dusted with powdered persulphate of iron. On the fourth day it is removed and the rectum irrigated with a mercuric solution. If the operation is done effectually, I have never seen the necessity of employing the bougies afterward, for the purpose of dilatation. Patients are averse to their use, and they do not accomplish the good claimed for them. My objection to the external operation, although I have practiced it often, is that to divide the sphincters when all the tissues are in a diseased condition invites non-union, and incontinence is nearly certain to follow. The suggestion of Weir, to confine the incision to the stricture and then to drain the incision by a tube brought out through the skin, at the tip of the coccyx, I do not think will accomplish the purpose in many cases; besides, it leaves a channel which may not heal. To divide the sphincters and then employ three or four deep provisional wire sutures between the anus and the strictures, leaving them loose and stuffing the incision with charpie, after the manner of Kelsey, I think unwise and unsurgical. It is said that one great danger of the operation is septic peri-proctitis, but under antiseptic precautions, the danger, in my opinion, is reduced to a minimum. In one case of malignant disease, in which I did the external operation, rapid sepsis took place, and the patient died in twenty-four hours. I do not think either the internal or external operation should be done for malignant growths, unless total, or nearly total, occlusion has taken place. In all cases of non-malignant stricture, syphilitic or simple, either the internal linear proctotomy of the French surgeons, or the external operation as practiced by many, is far more preferable to excision, or colotomy.

Electrolysis—It does appear that where we can so effectually go through a stricture by linear proctotomy at one sitting, that it would be needless to attempt so slow a process as electrolysis. After a careful review of the subject, I cannot believe that any benefit obtained is brought about by the dilatation from the electrodes used, as

suggested by some. If there be a benefit, in fact, it must be attributed rather to what is claimed for it—partial destruction of tissue by cauterization. To claim radical cures by this method, I must admit, seems untheoretical, if not unsurgical, and yet Dr. Newman and others report many cases of stricture cured by this method. In a paper read before this Association and published in THE JOURNAL, he makes the following conclusion:

1. Electrolysis in the treatment of stricture of the rectum is not a panacea; on the contrary failures may happen, and probably will, if the stricture is due to carcinoma. 2. Electrolysis will give improvement to the stricture when all other methods have failed. 3. Electrolysis will cure a certain percentage of cases, without relapse, and without the necessity of an after treatment or using bougies. 4. The best agents for a cure are through the fibrous inflammatory stricture.

Having no personal experience with this method of treating a stricture of the rectum, I am not prepared either to advocate it or disprove the statements made.

Excision.—I think a better term to employ here would be extirpation. Excision of a stricture of the rectum conveys but a little idea of the operation. I cannot appreciate the idea of excising a benign stricture, not from any serious doubts as to whether it could be done or not, or any dangers attending the operation, but there are methods so much simpler in their nature for the relief of benign strictures, that I cannot conceive of a surgeon attempting its excision.

Extirpation of the rectum for malignant disease I believe to be an ideal operation. Between the plan of the German surgeons of removing the entire rectum up to the sigmoid flexure, and the English surgeons of restricting the operation to a very limited extent, I believe that a middle ground can be established and practiced, based upon a true pathology. It is an axiom in surgery that in operating for cancer, the whole growth must be removed, together with the glands that are involved. Let us take this axiom as our guide in rectal surgery. If the growth extends beyond the point where it is prudent to operate, it is best not to attempt its removal, except, perhaps, for total obstruction, not with any idea of cure. Cripps makes the point that the operation is of doubtful propriety when the disease involves the upper part of the recto-vaginal section, where it is covered with peritoneum. I do not consider this injunction as meaning that it is so dangerous to open the peritoneum, but that this membrane being involved in the disease, renders the operation useless. If, however, there is no fear of the invasion of the peritoneum, an admirable operation is afforded us by Kraske's suggestion, enabling us to remove much of the length of the rectum. The chief argument in favor of his operation is that the entire length of the rectum can be removed, without disturbing the

sphincter muscles. In continence of feces, the result of injury to these muscles, is the one great objection to any other mode of operating.

Kraske's operation is admirably suited to cancerous stricture. It consists in resecting the diseased part, through an opening made at the left side of the sacrum. This operation, of course, is only applicable in a certain class of cases. For instance, if the sigmoid flexure is involved, it would be of no use. If the stricture is low down, it can be divided with a knife. According to his method, the soft parts are divided in the median line from the second sacral vertebra to the anus. The muscular attachments to the sacrum are divided as far as the edge of the opening on the left side. The coccyx is removed, the attachments of the two sacro-sciatic ligaments to the sacrum are cut, and the soft parts drawn to the left side. If still more room is necessary, it may be gained by removing a part of the lower left side of the sacrum. If the bone be divided on a line, beginning on the left edge, at the level of the three posterior sacral foramen, and running in a curve concave to the left, through the lower border of the three posterior sacral foramen and through the fourth to the left lower border of the sacrum, the more important nerves are not injured and the sacral canal is not opened. In this way, the lower part of the rectum, as far as the sigmoid flexure, may be removed. It will be found in this operation, that the dissection is a very difficult one.

Alexander modified this operation, the chief points being that he excised the coccyx and all of the sacrum necessary to a certain limit. Experimenting with the two, I much prefer Kraske's original operation. I have removed as much as five inches of the rectum, by simply removing the coccyx, making a deep and long dorsal incision, and then practicing a thorough dissection of the gut. The one great object of both of these operations is to keep the sphincter muscles and anus intact. It is true, however, that in some cases the cicatrization is sufficient to establish partial control at least of the actions after the removal of the muscles. This was beautifully illustrated in a case of extirpation which I recently did for cancer. The patient was a man about 60 years of age. The growth extended completely around the gut, beginning at the anus and extending up the rectum for fully five inches. The tissues surrounding the rectum were involved to the extent of three inches. Both sphincters were embraced in the disease. A deep dorsal incision was made through the sphincters and tissues to the sacrum, and brought out over the coccyx. The incision was then made completely around the whole diseased structure, extending from the coccyx, around through the perineum. The gut and sphincters were then carefully dissected out. The vessels were tied as they were met, drainage

tubes placed, and the wound dressed antiseptically. I did not do as the German surgeons suggest, draw down the end of the rectum to the skin, attach it by a row of sutures, nor did I do as Allingham and Kripps advise, stitch the gut lightly to the skin, and leave the wound to close by granulation. In lieu of both, I left the wound just as I made it, and made no attempt to either bring the mucous membrane down or to stitch it. When the wound had filled up and healed, the cicatrization afforded him protection against any sudden evacuation of the bowels. I am more and more persuaded that where there is a possibility of removing the entire malignant growth from the rectum, excision is far more preferable to colotomy. Excision would remove the disease, thereby having some grounds to hope that it will not reappear. By colotomy we simply palliate the symptoms, leaving the disease in its ravages.

Colotomy.—In a paper read before the Ninth International Medical Congress, which convened in this city in 1887, I took exception to colotomy as a means of treating cancer of the rectum. In that paper I said:

It is after a careful survey of all the reasons advanced by those who advocate colotomy, in cases of cancer of the rectum, that I am constrained to differ from them and to say that I do not believe that the operation is justified in these cases, except under the rarest circumstances, if at all.

I am still of the same opinion. Too many people are being subjected to this horrible and disgusting operation, that could be benefited equally as much, by simpler means. The operation in itself promises but little. Kelsey says:

It is the common doctrine taught, that it is to prolong life by the relief of pain, the prevention of obstruction, and in retarding the growth of cancerous disease.

To these statements I cannot give my full approval. First, that to prolong life by the relief of pain I answer, in the majority of cases that have come under my observation, and they have been many, there has not been much pain complained of. Indeed, it has not been a factor. A young lady just sent to me from the South, with a pronounced cancer of the rectum, says she has never suffered any pain. This is simply repeating what many have said to me. If this, then, be the reason assigned for the operation, these cases would be ruled out, and they constitute the majority. But suppose that pain exists, does colotomy relieve it? It may in some cases, but I am certain that in many it does not. As I have said in this article, pain is within the growth itself, by the involvement of the nerves. Surely colotomy could not relieve it. It is likely true that the feces passing over the growth may irritate it to a certain extent, but my experience has taught me that if the sphincter muscles are not involved, there is but little pain, and if they are

involved, scraping the mass out, according to the Germans, will relieve it, equally as well as colotomy would. Again, it must be admitted that after colotomy is done, there is no absolute certainty that some of the feces will not pass down into the rectum.

Second, that it prevents obstruction. It will be admitted that the greater number of cancers are located in the lower or fixed part of the rectum. It is a recognized fact, too, that total obstruction from fecal impaction rarely takes place; because it is the disposition of malignant tissue to break down after a certain stage. But suppose it does not, and a stricture, total, if you please, results, to cut through it, divulse it, or resect it, would be better than to do colotomy. The first two will promise equally as much, and the last much more. I have never seen a total obstruction by feces in a cancerous stricture. I have known total obstruction to occur by the closure of a stricture. We have means of eradicating this by the three methods mentioned. They are much simpler than colotomy, why not do them?

Third, that it retards the growth of cancerous disease. Neither can I subscribe to this proposition. How the establishing of an artificial opening in the loin or groin materially retards the growth in the rectum, I cannot understand. I know that it is used as an argument that the stoppage of the feces over the growth would, to a degree, stop the growth. This is utter fallacious. The cancer persists in its progressive course of infiltration, ulceration, etc., with as much rapidity after colotomy is performed. Correct statistics of the condition will verify my statement. Admitting that there was truth in the assertion, patients who suffer with cancer to that degree, or extent, requiring colotomy, are not anxious to have their lives prolonged. As a last argument, it is said that colotomy substitutes a painless death for one of great agony. This statement cannot be borne out by facts. Patients who have malignant disease of the rectum usually die of a low and gradual form of peritonitis. I have witnessed a number of such deaths, and they are usually painless. In what way colotomy can substitute a painless death, granting that such a condition exists, I cannot understand. It would appear that they would die very much the same way, whether colotomy is done or not. So I am forced to conclude that neither one nor all of the so-called arguments in favor of doing colotomy, instead of other methods, for cancerous stricture, can be substantiated in fact. If I were asked, when is colotomy justified in cancer of the rectum, I would answer, rarely, if at all. But if there be total obstruction of the sigmoid flexure from a cancerous mass, and if for any special reason we wish to prolong life a few days, then I believe colotomy would be justifiable. I know that this is a radical view to take of the case, and I also

recognize that the great majority of surgeons will differ from me, but my conclusions have been formed after a careful investigation of the subject.

But to proceed. Is colotomy to be recommended as a procedure in the treatment of stricture of the rectum? I unhesitatingly answer, yes. Whenever a stricture other than malignant, especially when caused by syphilis, is located in the movable part of the gut, or in the sigmoid flexure, either causing total obstruction or about to cause it, colotomy should be done. If I am asked why, in this instance, and not in cancerous stricture, I would answer, in this we prolong life indefinitely. I see no reason why one should not live many years after the operation done for this condition. A fibrous stricture in the locality named would likely cause death by occlusion, if let alone. It is beyond reach for dilatation, division or excision. There is nothing in the stricture *per se* to cause death, only in the manner mentioned. It acts as a foreign body, causing obstruction. It can never be reabsorbed. It cannot cause death by infection of the body. Having blocked the channel, we open a gate-way above for the escape of feces, and life is prolonged indefinitely. To do the operation for cancerous stricture, the disease is neither stayed nor cured. The patient dies and the friends ask, why you did so formidable and disgusting an operation, when you knew that death would so soon ensue. To the contrary, in benign or syphilitic strictures, the patient will live to thank you for doing the colotomy. If, then, it is decided to do colotomy, which of the two operations is preferable, the lumbar or extra-peritoneal, or iliac, or intra-peritoneal? I think the anatomical phrase used in designating the two should decide it. An operation extra-peritoneal is certain to be preferred to one that is intra peritoneal.

I am cognizant of all that is said in regard to the perfect safety of opening the peritoneum under aseptic precautions. Nevertheless, it cannot be gainsaid that it is more dangerous to open the peritoneum than not to open it. I know, too, it is asserted that in doing a lumbar operation, the peritoneum is often opened. This has not been the case in my experience, and in Mr. Bryant's 170 cases of lumbar colotomy, the peritoneal cavity was opened but twice. This disproves the assertion. It is urged in favor of the iliac operation, that by it there can be no possibility of the surgeon mistaking the small intestines, duodenum, or stomach, for the large intestine. Just as well say that it is dangerous to attempt to ligate internal hæmorrhoids, because there is a possibility of including the prostate gland. A surgeon that could not recognize the stomach from the colon, ought not to attempt a colotomy. If the operation is done for the condition that I have named, namely cancerous stricture or obstruction in the

sigmoid flexure, the lumbar operation is also preferable for the reason that it is a greater distance from the diseased part and not so apt to be embraced by it.

I have not the time or disposition to argue the pros and cons of this much mooted question. I think Mr. Bryant has met all the objections against the lumbar operation, and I quite agree with him when he says: "Iliac colotomy is not yet proved to be superior to the lumbar operation."

LECTURES.

THE CHEMICAL FACTORS IN THE CAUSATION OF DISEASE.

A Course of Three Lectures delivered at the Post-Graduate Medical School of Chicago, March 26, 27 and 28, 1897.

BY VICTOR C. VAUGHAN, M.D., Ph.D.,
OF ANN ARBOR, MICH.

PROFESSOR OF HYGIENE AND PHYSIOLOGICAL CHEMISTRY AND DIRECTOR OF THE HYGIENIC LABORATORY IN MICHIGAN UNIVERSITY.

(Continued from page 618.)

LECTURE II. THE BACTERIAL POISONS OF SOME OF THE INFECTIOUS DISEASES.

An exact classification of the chemical factors in the causation of the infectious diseases can probably not be made at present. We know of two chemically distinct classes, one of which contains substances which combine with acids, forming chemical salts, and which in this respect at least correspond with the inorganic and vegetable bases. The members of this class are designated as ptomaines, a name suggested by the Italian toxicologist, Salmi, and derived from the Greek word *πτωμα*, meaning a cadaver. A ptomaine may be defined as a chemical compound which is basic in character and which is formed by the action of bacteria on organic matter. On account of the basic properties, in which they resemble the vegetable alkaloids, ptomaines may be called putrefactive alkaloids. They have also been called animal alkaloids, but this is a misnomer, because in the first place some of them are formed in the putrefaction of vegetable matter; and in the second place, the term "animal alkaloid" is more properly restricted to the leucomaines, those basic substances which result from tissue metabolism in the body. While some of the ptomaines are highly poisonous, this is not an essential property, and others are wholly inert. Indeed, the greater number of those which have been isolated up to the present time do not, when employed in single doses, produce any apparently harmful effects. Briege restricts the term ptomaine to the non-poisonous basic products, and designates the poisonous ones as "toxines." This is a classification, however, which seems to be of questionable utility. It is not always easy to say

just what substances are poisonous and what are not. The poisonous action of a substance depends upon the conditions under which, and the time during which, it is administered. Thirty grains of quinine may be taken by a healthy man during twenty-four hours without any appreciable ill effect, yet few of us would be willing to admit that the administration of this amount of quinine daily for three months would be wise or altogether free from injury. In the same manner the administration of a given quantity of a putrefactive alkaloid to a dog or guinea-pig in a single dose may do no harm, while the daily production of the same substance in the intestine of a man and its absorption continued through weeks and possibly months, may be of marked detriment to the health. We do not as yet know enough about the physiological or toxicological action of the putrefactive alkaloids to render the classification proposed by Brieger worthy of general adoption.

All ptomaines contain nitrogen as an essential part of their basic character. In this they resemble the vegetable alkaloids. Some of them contain oxygen, while others do not. The latter correspond to the volatile vegetable alkaloids, nicotine and conine, and the former correspond to the fixed alkaloids.

Since all putrefaction is due to the action of bacteria, it follows that all ptomaines result from the growth of these microorganisms. The kind of ptomaine formed will depend upon the individual bacterium engaged in its production, the nature of the material being acted upon, and the condition under which the putrefaction goes on, such as the temperature, amount of oxygen present, and the duration of the process.

A second class of the chemical factors in the causation of the infectious diseases embraces the so-called poisonous albumins. In 1886, Mitchell and Reichert published the results of their investigations into the nature of the venom of serpents, from which they concluded that the poisonous constituents are peptones and globulins. Of the latter they reported the presence of three varieties, each of which is toxic in its action. Although it had been known before this that the injection of any considerable amount of artificially prepared peptone directly into the blood is followed by markedly deleterious effects, this was the first demonstration of the possession of characteristic toxicity by any of the proteids, and from the report of Mitchell and Reichert we may date all modern studies, at least, of the poisonous albumins.

In 1887, Sewall found that tolerance to the venom of the rattle-snake could be established in pigeons by the inoculation of a very small quantity and gradually increasing the amount. In this manner a pigeon was found to bear without ill effect seven times the amount ordinarily fatal to the same animals. The immunity thus ob-

tained was observed to gradually diminish after the discontinuance of the inoculation. However, after five months, while the larger amounts reached in the last injections proved fatal, the ordinarily fatal dose was without effect.

Salmon and Smith protected pigeons against the germ of hog cholera by previous injections with cultures of the same organism which had been sterilized by exposure to a temperature of from 58° to 60° C. for one hour. However, since these cultures contained one or more ptomaines, as well as the poisonous albumins, it could not be, at that time at least, said to which of these constituents the immunity was due.

To Christmas, I believe, is due the credit of first showing the presence of active proteids in bacterial cultures. In 1888, this investigator obtained from cultures of the staphylococcus pyogenes aureus a proteid body which, when injected into the anterior chamber of the eye or under the skin, caused suppuration.

We will now give our attention to the chemical poisons, both the ptomaines and the albumins, of some of the infectious diseases, and in doing this we will illustrate and substantiate the statements made in the preceding lecture.

Anthrax.—The definition of an infectious disease, as we have given it, is well illustrated by the facts which have been learned concerning the causation of anthrax, which has, probably, been more thoroughly studied than any other infectious disease. Kausch taught that this disease has its origin in paralysis of the nerves of respiration. Upon the cause of this paralysis he gave us no information. Delafond thought that anthrax has its origin in the influence of the chemical composition of the soil, affecting the food of animals and leading to abnormal nutrition. The investigations of Gerlach, in 1845, demonstrated the contagious nature of the disease, which was emphasized by Heusinger in 1850 and accepted by Virchow in 1855. However, as early as 1849, Pollender found numerous rod-like microorganisms in the blood of animals with the disease. This observation was confirmed by Brauel, who produced the disease in healthy animals by inoculations with matter taken from a pustule on a sick horse. Attempts were made to ridicule the idea that these germs might be the cause of the disease, and it was said that the bodies seen were only fine shreds of fibrin or blood crystals. Some claimed that the rod-like organisms reported were due to defects in the glass, while others claimed that the defects existed in the eye of the observer, and others still suggested that the defects might be found back of the eye and in the brain. But in 1863, Davaine showed that these little bodies must have some causal relation to the disease, inasmuch as his experiments proved that inoculation of healthy animals with the blood of those sick with anthrax produced the disease only when

taken at a time when the blood contained these organisms. He also demonstrated beyond any question that these rod-like bodies are bacteria, capable of growth and multiplication. The conclusions of this investigator were combated by many; but Pasteur, Koch, Bollinger, De Barry and others studied the morphology and life history of these organisms, and then came the brilliant results of Pasteur and Koch in securing protection against inoculation anthrax by the vaccination of healthy animals with the modified germ and subsequent inoculation with the virulent form. Now, the bacillus anthracis is known in every bacteriological laboratory, and by inoculation with it the disease is communicated at will to susceptible animals. But here the question arose, How do these bacilli produce anthrax? and in answer to this question the various theories which we have mentioned were proposed.

The first successful attempt to study the chemical poisons of anthrax was made by Hoffa, who obtained from pure cultures of the bacillus small quantities of a ptomaine which, when injected under the skin of animals produces the symptoms of the disease and death. This substance causes at first increased respiration and action of the heart, then the respirations become deep, slow and irregular. The temperature falls below the normal; the pupils are dilated, and a bloody diarrhoea sets in. On section the heart is found contracted, the blood dark, and ecchymoses are observed on the pericardium and peritoneum. Hoffa names his poison anthracin.

It has been said that Hoffa's work was the first successful attempt to study the chemical poisons of anthrax. However, his results cannot be considered altogether satisfactory. The small amount of the basic substance which he obtained rendered it highly probable that in the case of a germ so virulent as that of anthrax there must be other chemical poisons produced. This supposition has been confirmed by the labors of Hankin who, in 1889, while at work in Koch's laboratory, prepared from cultures of the bacillus anthracis an albumose which when employed in comparatively large amount proved fatal to animals, but when used in very small quantity gave immunity against subsequent inoculations with the living germ. Unfortunately Hankin does not mention the symptoms induced by toxic doses of this substance. Whether or not the albumose of Hankin contains *in statu nascendi* the base of Hoffa, and owes its poisonous properties to the same, has not been determined. There is yet a promising field for research in the chemistry of this disease.

Asiatic Cholera.—There are good reasons, apart from experimental evidence, for believing that the comma bacillus of Koch produces its ill effects by the elaboration of chemical poisons. This germ is not a blood parasite. It grows only in

the intestine, and the symptoms of the disease and death must result from the absorption of its poisonous products. In confirmation of this statement, experiment has shown that this is one of the most active, chemically, of all known pathogenic germs.

In the first place, Bitter has shown that the comma bacillus produces in meat-peptone cultures a peptonizing ferment, which remains active after the organism has been destroyed. Like similar chemical ferments it converts an indefinite amount of coagulated albumin into peptone. It is more active in alkaline, than in acid solutions, thus resembling pancreatin more than pepsin. This resemblance to pancreatin is further demonstrated by the fact that its activity is increased by the presence of certain chemicals, such as sodium carbonate and sodium salicylate. That a diastatic ferment is also produced by the growth of the bacillus was indicated, in the experiments of Bitter, by the development of an acid in nutrient solutions containing starch paste. However, all attempts to isolate the diastatic ferment were unsuccessful. A temperature of 60° C. destroys or greatly decreases the activity of ptyalin, and this seems to be true also of the diastatic ferment produced by the comma bacillus. But the formation of an acid from the starch presupposes that the starch is first converted into a soluble form.

Rietsch believes that the destructive changes observed in the intestines in cholera are due to the action of the peptonizing ferment.

Cantani injected sterilized cultures of the comma bacillus into the peritoneal cavities of small dogs and observed after from one-quarter to one-half hour the following symptoms: Great weakness, tremor of the muscles, drooping of the head, prostration, convulsive contractions of the posterior extremities, repeated vomiting and cold head and extremities. After two hours these symptoms began to abate, and after twenty-four hours recovery seemed complete. Control experiments with the same amounts of uninfected beef-tea were made with negative results. The cultures used were three days old when sterilized. Older cultures seemed less poisonous and a high or prolonged heat in sterilization decreased the toxicity of the fluid. From these facts Cantani concluded that the poisonous principle is volatile, but the effect of high or prolonged heat in diminishing the toxicity was more probably due to its destructive effect on the poisonous proteids.

Brieger succeeded in isolating from cultures of the comma bacillus in meat broth two basic substances which he considers the specific poisons of cholera. One of these, found in the mercuric chloride precipitate, is a diamine, resembling trimethylenediamine. It produces muscular tremor and heavy cramps. In the mercury filtrate was found another poison, which, in mice, produced a lethargic condition; the respiration and heart's

action became slow, and the temperature sank, so that the animal felt cold. In some instances there was a bloody diarrhoea.

Later Brieger and Fränkel have obtained a cholera-albumin which proves fatal to guinea-pigs after two or three days, but is without effect upon rabbits.

More recently Winter and Lesage treat a bouillon culture of the cholera germ with sulphuric acid, dissolve the precipitate in an alkaline medium, reprecipitate with acid, and redissolve in ether, which on evaporation leaves oily drops which, on cooling, form a yellow mass of the appearance of a fat. This substance is insoluble in water and acids, soluble in alkalies and ether. It melts at 50° C., and does not lose its virulence on being boiled with alcohol rendered feebly alkaline. The virulence of a culture and the amount of this substance contained therein are in direct proportion to each other.

Small doses of this substance (one milligram to 100 grams of body weight of the animal) in feebly alkaline solution introduced into the stomachs of guinea-pigs cause, as a rule, within from four to six hours, a chill, and death after twenty-four hours. With larger doses the temperature falls after from one-half to one hour, and death results within from twelve to twenty hours. Smaller doses cause a less marked reaction and the animal recovers within twenty-four hours. If killed within this time the animal shows a choleraic condition. Rabbits succumb only after repeated subcutaneous injections. The substance can be extracted from the muscles, liver, kidneys and urine of the poisoned animals. This substance can also be obtained from cultures of a cholera infantum germ. The fact that this poison belongs neither to the ptomaines or albumins is of interest.

Cholera Infantum.—The fact that Booker, Escherich and other investigators have failed to find any one germ constantly present in the bowels or stools of children suffering from summer diarrhoea was mentioned in the preceding lecture. Notwithstanding this, the fact that chemical poisons are concerned in the production of these diarrhoeas has been abundantly demonstrated. In the first place the symptoms of the choleraic form of these diarrhoeas are so very similar to those induced by a number of gastro-intestinal irritants, which at the same time depress the nerve centres, that the suggestion that the disease might be due to chemical poisons has been favorably received by the profession. The poisonous substance first found by the writer in cheese and afterwards in ice-cream, milk and various milk preparations, and which is known as tyrotoxin, induces symptoms which cannot be distinguished from those of choleraform diarrhoea in infants. Moreover, the post-mortem appearances are very much alike, if not identical, and the poison has been

found in a sample of milk, a part of which had been given to a child not more than two hours before the first symptoms of a violent attack of the disease manifested themselves.

Tyrotoxin however, is only one of the poisons which may appear in milk and milk products, or may be formed in the intestines of the infant and cause an exhausting diarrhoea. I have recently isolated from samples of poisonous cheese, in which tyrotoxin could not be detected, a poisonous albumin.

I have also isolated from pure cultures of the germs, x, a, and A of Booker's list of summer diarrhoea microorganisms, three poisonous bodies, small quantities of which injected under the skin of kittens and puppies cause retching, vomiting, purging, collapse and death. Ten milligrams of the dried proteid from "a" killed a large guinea-pig within twelve hours, and a smaller amount proved fatal, in other experiments, after a longer time. These poisons differ from one another, more or less, in their physical and chemical properties, but all produce the above mentioned symptoms. It may be that a more exact study of the effects induced will enable us to distinguish, in this way, one from the other. Evidently, here are three germs differing from one another morphologically sufficiently to be classified as different species, but belonging chemically and toxicologically to the same group. How many more of the long list of bacteria found by Booker, Escherich and others in the study of these diseases remains to be ascertained. There is no reason, however, for supposing that in taking three of these at random, I have hit upon the only toxicogenic ones.

The fact that Baginsky's cholera infantum germ produces a poisonous albumin was referred to in the first lecture; also the formation of a choleraic poison by the germ of Lesage has been mentioned in discussing the chemical poisons of Asiatic cholera.

The prevention of the summer diarrhoeas of infancy becomes a more difficult task than those who believe that a single microorganism is concerned in their causation admit. All bacteria which are capable of growth and reproduction within the intestines of the infant, and of the production of chemical poisons during their development, must be excluded. The treatment of the same diseases will not be wholly successful until we know how to antidote these poisons. To accomplish these ends will probably require many years of research and observation by our profession. However, if this be the right line, let us follow it, realizing that our successors will profit by our mistakes, and render our partial successes more successful.

Diphtheria.—Roux and Tersin rendered cultures of Löffler's bacillus of diphtheria sterile by filtration through porcelain, and injected thirty-five cubic centimeters of the filtrate into the ab-

dominal cavity of guinea-pigs. No immediate effects were observed, but after two or three days, the animals refused to eat, passed bloody urine, showed muscular weakness in the posterior extremities, manifested marked irregularity in respiration and died after from five to six days. Section showed marked renal hyperemia and a serous exudation in the pleura. In cases of less acute intoxication, paralysis of certain groups of muscles become apparent.

The cultures first employed were seven days old. Older cultures (six weeks) contain more of the poison, and the symptoms appear within a few hours after the injection. In cultures especially rich in the poison, a small amount (from 0.2 to 2.0 cc.) injected under the skin suffice to induce the symptoms. The place of injection becomes œdematous, the respiration rapid, and death results as quickly as after inoculation with the germ. Mice and rats are markedly insusceptible, but succumb to large doses.

The action of this poison was found to be much lessened by continued exposure to a temperature of only 58°. These investigators believed that this poison belonged to the group of enzymes.

Brieger and Fränkel have continued the study of the chemical poison of the Löffler bacillus. These investigators find that this poison can be heated to 50° in the presence of an excess of hydrochloric acid without being destroyed, and they conclude from this that the substance cannot be an enzyme or ferment. The poison is precipitated from the culture, after sterilization by filtration through porcelain, by absolute alcohol, slightly acidified with acetic acid. It forms a snow-white, amorphous mass. It stands very closely related to serum-albumin. It may also be precipitated by saturation with ammonium sulphate, and can be purified by removing the sulphate by dialysis. This reaction distinguishes it from the peptones. In small doses (two and one half milligrams per kilogram body weight), injected into the blood-vessels, it causes death, not like other poisons, immediately, but after days, weeks or months, with the formation of abscesses and necrotic tissue at the point of injection, with progressive emaciation and paralysis. Brieger and Fränkel propose for this and similar bodies the name "toxalbumin." As was stated in the first lecture, these studies leave no room for us to doubt that the Löffler bacillus is a cause of diphtheria. The chemical poisons of Prudden's streptococcus and of the germ found by Klein in the diphtheria of some of the lower animals, have not been investigated.

Suppuration.—The fact that a pus-producing chemical poison was found in cultures of the staphylococcus pyogenes aureus has been already noted. In addition much interesting work on the poisons of suppuration has been done. That the ptomaines, cadaverine and putrescine, of Brieger,

when injected under the skin in sterile solutions, cause abscesses, has been known for some years. It has been shown that sterilized cultures of a number of different germs produce suppuration. Thus, Büchner showed that sterilized cultures of the bacillus of Friedlander contains pyogenic substances, and when injected into man in very dilute solution produce an elevation of temperature. In view of the fact that so much has been said about the wonderful effect of small doses of the so-called cure for tuberculosis proposed by Koch, the following account of an experiment made upon himself and reported by Büchner early in 1890, may be of interest: Five tenths of a cubic centimeter of a sterilized very dilute emulsion of Friedlander's bacillus was injected under the skin of the forearm, after it had been found that 500 times this quantity, reckoned per kilogram of body weight, caused no local irritation or suppuration in a rabbit. One and one-half hour after the injection sharp pain extended along the arm to the axilla. One-half hour later there was a chill followed by a fever which reached a maximum of 36.6° in the axilla five hours after the injection. At the same time the pulse arose to 108. On the following day there were well marked erysipelatous swelling and redness extending over an area larger than a saucer about the place of inoculation, and there was marked redness along the lymphatics of the arm. On the third day all these symptoms disappeared.

Büchner has shown that the cells of seventeen different species of bacteria contain pyogenic substances. The cells may be boiled for hours, their substance dissolved in dilute alkali and precipitated by acid without losing its pyogenic properties. It should be understood, however, in this case that the active substance is contained within the bacterial cell, and this leads us to distinguish between the chemical poisons which arise from bacterial activity and are found in solution in cultures, and those which reside within the cell and form an integral part of the same. Büchner finds this active substance within the cell to be proteid in character. It gives the biuret, Millon's and xanthoprotein reactions. Before the substance can cause suppuration within the body it is most likely necessary for the bacterial cells to suffer disintegration. It is hardly necessary to add that the pus formed by this bacterial proteid is germ-free.

Typhoid Fever.—The poisons of this disease are both basic and proteid, though those belonging to the latter group seem to be the more virulent.

In 1885 Brieger obtained from pure cultures of the Eberth bacillus a ptomaine, which produced in guinea-pigs a slight flow of the saliva, increased frequency of respiration, dilatation of the pupils, profuse diarrhoea, paralysis and death within twenty-four to forty-eight hours. Post-mortem examination showed the heart in systole, the

lungs hyperemic and the intestines contracted and pale. Brieger was at first inclined to regard this as the specific poison of typhoid fever and named it "typhotoxine." However, he obtained with this substance no elevation of temperature.

In 1887 Novy and the writer obtained from cultures of a germ found in drinking water which had been the supply of many persons who had typhoid fever, an extract which, when injected under the skin of cats, caused an elevation in the temperature of from two to four and one-half degrees.

In 1889 the writer obtained, from mixed cultures made from typhoid stools, a small amount of a basic substance which caused, in the lower animals, an elevation of temperature accompanied by profuse diarrhoea.

Brieger and Fränkel obtained, from cultures of the Eberth bacillus, a poisonous albumin, but have reported no particulars concerning its action. The writer has two germs, obtained from drinking water supposed to have caused typhoid fever, and which, after having been kept for some days at a fever temperature, give all the reactions which have hitherto been supposed to be characteristic of the Eberth bacillus. From pure cultures of each of these he has isolated highly poisonous proteids, which, in dogs, cause a chill, followed by marked elevation of temperature. These poisons are soluble in water, from which they are not precipitated by heat or nitric acid, singly or combined. They are precipitated by saturating the aqueous solution with ammonium sulphate, and are not, therefore, peptones. They are not precipitated by carbonic acid gas, or by sodium sulphate to saturation, and this excludes them from the class of globulins. The aqueous solutions respond to the xanthoprotein and biuret reactions. Chemically I can so far distinguish no difference between the poisonous albumins produced by the two germs, but physiologically there is a marked difference. That from bacillus A produces paralysis of the voluntary muscles, which is preceded in some animals by most violent convulsive movements. With the proteid of bacillus B neither the convulsions nor the muscular paralysis has been observed. The animal seems to die from gradual failure of the heart. However, these poisons demand a much more extensive and exhaustive study than has yet been made. It will be seen from what has been said, that the chemistry of typhoid fever promises to be both fertile and interesting in results.

Tetanus.—Brieger has obtained from the mixed cultures of the germs of Nicolaier and Rosenbach, four poisonous substances. The first, tetanine, which rapidly decomposes in acid solutions, but is stable in the presence of free alkali, produces tetanus in mice when injected in quantities of only a few milligrams. The second, tetanotoxine, produces tremor, followed by severe

convulsions. The third, to which no name has been given, causes tetanus, accompanied by a free flow of the saliva and tears. The fourth, spasmotoxine, produces heavy convulsions.

Later, the same investigator extracted tetanine from an amputated arm of a man with tetanus. This is of special importance, since it answers the assertion made by Baumgarten, that there is no proof that the poisons which have been obtained from artificial cultures, are formed within the body of man.

From pure cultures of the tetanus bacillus of Kitasato, Brieger and Fränkel have isolated a poisonous proteid, and with cultures of another bacillus, Tizzoni and Cantani have been equally successful. These investigations leave us without cause to doubt that the convulsions of traumatic tetanus are due to one or more spinal poisons, and the causal relation of a given bacillus is determined not by its morphological characteristics, but by its capability of producing a chemical substance which has a definite toxicological effect.

Tuberculosis.—Whatever may be the ultimate verdict concerning the curative properties of Koch's tuberculin, its employment has made us familiar with the action of the chemical products of the bacillus tuberculosis on man. Unfortunately, Koch has given us but little information concerning the nature of his tuberculin, and the little which he has given us has been to some extent misleading. I would not imply that he has intentionally been misleading. Indeed, I believe that such was not his intention. He speaks of the agent as an extract of a pure culture of the bacillus tuberculosis with 50 per cent. glycerine. Now, chemists who have been at work with bacterial poisons, distinguish between bacterial products and the contents of the bacterial cells. One would infer from Koch's statements that tuberculin is prepared by extracting the bacterial cells with 50 per cent. glycerine, and that the bacterial products are not present. But, as has been shown by Hueppe and Schall, the proteids of the cells of the bacillus tuberculosis cannot be extracted with 50 per cent. glycerine. Moreover, the same investigators have prepared a fluid identical in physical properties, in chemical reactions, and in its effects on animals, with Koch's fluid, by each of the three following methods:

1. Cultures of the bacillus are filtered, sterilized by heat and concentrated.
2. The supernatant, fluid portion of the culture is decanted from the mass of germs at the bottom of the flask, and then concentrated.
3. The culture is freed from germs by filtration through a Chamberland filter and concentrated.

These fluids contain, 1, the constituents of the nutritive medium which have not been altered by the growth of the germ, such as glycerine, albu-

mins, albumoses and peptones; 2, the bacterial products, which may possibly belong to the ptomaines, the bacterial albumins or albumoses and bacterial ferments; and 3, any constituents of dead, broken-down bacilli which may have passed into solution. To which of these constituents the action of the fluid is due has not been positively determined. However, from the similarity in the action of this fluid with that of the bacterial products of other germs, we seem justified in assuming that these constitute the active principle.

As early as 1888, Hammerschlag found a poisonous proteid among the products of the growth of this germ.

Recently Zuelzer has reported the isolation of a poisonous ptomaine from agar cultures of the bacillus tuberculosis. He says that the injection of 1 centigram or less of this substance subcutaneously in rabbits or guinea pigs causes, after from three to five minutes, increased frequency of respiration (to 180 per minute?) and an elevation of temperature of from 0.5° to 1° . He also reports marked protrusion of the bulb of the penis as a constant symptom; the eyes become very bright and the pupils are dilated. From two to three centigrams suffice to kill rabbits, death occurring in from two to four days. The place of injection is reddened and hæmorrhagic spots are formed in the mucous membrane of the stomach and small intestines. In two instances from 15 to 20 cc. of clear fluid were found in the peritoneal cavity.

(To be concluded.)

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

TREATMENT OF BED-SORE.—BILLROTH recommends that the part should be bathed with vinegar or lemon juice as soon as erythema appears. Excoriations should be touched with nitrate of silver and the part dressed with simple cerate, or soap plaster spread upon linen or soft leather. When gangrene occurs the surface should be covered with a disinfectant, such as chlorinated water. Carbolic acid should be avoided, because of its liability to cause poisoning. Energetic internal measures should be employed, to strengthen and build up the system, such as wine, acid drinks, quinine and musk.—*L'Union Médicale*.

Medicine.

DETERMINATION OF THE LOWER BORDER OF THE LIVER.—VERSTRALTEN (*Centralblatt für Klin. Med.*) points out how difficult it is in many cases to outline the surface, and particularly to determine the exact position of its lower border. This he thinks is easier by auscultation than by any other method; taking advantage of the ex-

cellent conducting power of the liver, the stethoscope is placed over the heart and then gradually moved downward and to the right. The point at which the heart sounds are no longer heard marks the lower border of the organ. A source of error is contracted abdominal walls; they should be relaxed as far as possible, if necessary, by placing the patient in a sitting posture.

Surgery.

TEN YEARS' EXPERIENCE OF GASTRIC SURGERY.—DR. TORRAS has made a study of the statistics of the resection of the pylorus during the years from 1880 to 1890. From this it appears that in 1880 there was one extirpation followed by death. In 1881, out of 20 in whom the section of the pylorus was performed, there were 15 deaths and 5 cures. In 1882, the numbers stood, as out of 16 cases: 13 deaths and 3 cures; in 1883, 13 cases; 7 deaths and 6 cures; in 1884, 5 deaths and 3 cures; in 1885, 5 cases, 3 deaths and 2 cures; in 1886, 3 cases, 1 death and 2 cures; in 1887, 2 cases, 2 cures; in 1888, 1 case, 1 cure; in 1889, 1 case, 1 cure; in 1890, 2 cases, 2 cures.

In reviewing these statistics Dr. Torras observes that the surgical enthusiasm which led a man so eminent as Billroth to sanction this operation has evidently decreased, till, in 1889, only one operation of the kind was performed, and two in 1890. This proves that the results have not corresponded to the hopes conceived, and that such an operation is very rarely indicated in cancer of the stomach. Dr. Torras details a case of exploratory laparotomy performed by Dr. Fargas in a woman of 52, who had for several months suffered from vomiting and pain in the gastric region. In this situation a moveable tumor could be felt, about the size of an orange, which was supposed to be malignant, and to be attached to the gastro-colic epiploon. On opening the abdominal wall, it was found to be a carcinoma of the head of the pancreas, adhering to the duodenum and pylorus. Under these conditions, Dr. Fargas did not venture to attempt removal, but confined himself to cauterize with the thermocautery some points of the bleeding surface of the tumor, and to close the incision with sutures. The outer wound healed in ten days, and the patient felt better for a month after, when she died in a cachectic condition.

Though most of those stated to be cured by the operation have survived above five years, yet none of them can be regarded as really out of danger from the disease. Dr. Torras would confine the operation of gastrotomy to cases in which digital or instrumental dilatation might be practiced for simple stenosis of the pylorus, or for contraction of the orifice from cicatrices or fibrous tumors, or for the extraction of foreign bodies from the stomach.

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SURGICAL TREATMENT OF GENERAL
PARALYSIS.

The possibility of curing general paralysis by trephining the skull is again coming into prominence. Two years ago DR. SHAW, of London, performed the first operation of this kind, which was practically a success. He reasoned that all the symptoms in general paralysis seemed to indicate an irritative inflammatory process in the upper layers of the convolutions. An operation would produce an alteration in the morbid process; on the theory of nerve stretching he proposed to give the brain at this point more space to expand, and relieve itself of the increased arterial pressure, which the sphygmograph indicated as one of the early conditions of this disease. He hoped by relieving the fluid pressure to stimulate some new nutritive processes.

The patient upon whom the operation was performed was in the second stage of the disease. He had delusions of grandeur, affection of speech, exaggerated reflexes, unsteady gait and retention of urine. Convulsive attacks followed, with periods of loss of sensation, difficulty in swallowing and talking, and rapidly approaching dementia. The trephine was applied on the right side of the skull, over the central sulcus, two inches outside of the longitudinal fissure. The patient improved to such an extent that he was discharged as recovered.

From post-mortem appearances in such cases both atrophy of the brain and increase of brain fluids are found. It is not known whether this condition comes from pressure of brain fluid or

whether the fluid collects on account of brain shrinking. The extreme bulging of the dura in this case seemed to show that the first theory was correct. By removing a portion of the bone, and corresponding meninges of the brain, not only would the existing fluid be let out, but a permanent contact would be established between the secreted fluid and the under surface of the scalp-flap, to the absorbent of which was entrusted its future removal.

The second case was operated on by DR. BATTY TUKE. It was farther advanced and more hopeless. A large button of bone was taken out, and the patient was more sane and improved in every way for some time; finally the old symptoms returned, and he was taken to DR. CLOUSTON'S asylum at Edinburgh, and at present he is hopelessly demented. DRS. TUKE and CLOUSTON both considered that the operation was fully justified, and that the modifications and improvements in the symptoms were hopeful signs of what might be expected in more recent cases.

Several criticisms have been made on the theories of this operation. It is asserted that the paralysis, loss of power of talking, attacks of stupidity, etc., are not due to fluid pressure, and that the excess of fluid is only a secondary and compensating process. Also that holes in the skull cannot relieve the pressure on the convolutions. TUKE asserts that obstructed lymph makes its way very imperfectly by natural channels to the pia-matral space and becomes diffused through the tissues, injuring and displacing cell and fibre, and impairing their functional activity, while the operation, by permitting a healthy action of the lymphatics and blood-vessels, stays the process of sclerosis.

The criticism of this view is that only in the second stage of this disease is there any extraordinary development of the lymph connective system of the brain, with degeneration and disappearance of nerve elements, the axis cylinders of which are denuded; that the first stage is one of true degeneration due to acute interstitial changes, that are similar to senile atrophy. That the excess of fluid in the second stage is of secondary importance, and is the only stage when an operation can be expected to be of any value on this theory, while in fact the case has passed all possibility of cure in this stage. The first stage is the only period that any operation can be justifi-

fied, but at this time no lymph has been formed, and no benefit can be expected on the pressure theory. The critics affirm that any change which may follow this operation is due to a natural remission in the disease.

From these theories and criticisms there are many reasons for expecting some startling developments along this new line of brain surgery. The general hopelessness of these cases, and inability of remedies to even stay the progress of the disease, would seem to justify the surgeon in experiments, which cannot alter the final issue of the case, under any circumstances. The reckless use of powerful remedies experimentally and theoretically is common in nearly all cases, and the surgeon is equally justified in attempting means that give promise of relief. These two cases will arouse new interest in this disease, and suggest theories of pathology and treatment that would have been impossible a few years ago.

THE VALUE OF KOCH'S TUBERCULIN.

The therapeutical results obtained by tuberculin may be summarized in two statements: 1. With the exception of certain forms to be specified hereafter, the agent exerts a specific effect on all tubercular lesions, by starting an inflammatory process in and around the tubercular tissue, which tends to cure the disease. 2. This reparative change has not proceeded up to the actual cure in the majority of cases hitherto treated. The exceptions not influenced by tuberculin are old lesions in a state of caseation, a fact already pointed out by KOCH in his first communication, but also fresh miliary eruptions, attention to which latter important observation has been called by VIRCHOW and other pathologists. The inability of tuberculin to affect fresh miliary tubercles or to prevent their dissemination, and the frequent cessation of its curative influence before the infiltration has completely disappeared, are at present the main obstacles to success with this treatment. But in order to review what the agent can do and has done, it is necessary to consider the various tubercular localizations separately.

In *lupus*, with scarcely an exception, the agent has produced an improvement which, competent observers claim, cannot be obtained by any other means within the same time. This improvement

can proceed up to absolute cure of the disease, at least for the time being. Thus, of the later authors, DOUTRELEPONT states that of thirty-one cases of *lupus* four were completely cured, and all the others were in a state of marked improvement. But in the majority of cases the improvement ceases before the entire patch is healed, while in others where a smooth cicatrix has resulted, nodules can still be felt under the skin and—on the cessation of the treatment—these give rise to fresh manifestations of the disease. Yet most of the writers admit that they could not have benefited their patients to the same extent within the same time by any other means.

In tuberculosis of the mucous membranes and of the larynx especially, perhaps the most brilliant results have been accomplished with tuberculin. Numerous cases have been placed on record, in which the ulcers healed completely under the eyes of the observer, even when the accompanying pulmonary lesion was not benefited to the same extent. It has often been noticed that on mucous surfaces, and especially in the larynx, fresh nodules and even minute ulcers appear in the vicinity of the preëxisting lesion under tuberculin treatment. In one of such instances FLATAU has proven by histological examination (presence of bacilli) that the nodule was a true tubercle. It is an open question whether these "new" lesions are the result of preëxisting bacilli, the presence of which is made manifest by the tuberculin influence, or whether they indicate really a dissemination of the virus. At any rate, they disappear readily under the continuance of the treatment, differing in this respect from fresh eruptions in internal organs. A few instances of laryngeal tuberculosis (and also diseases of other mucous surfaces) have been reported without benefit from tuberculin, but as a rule this agent has cured the tubercular localization in these parts with a rapidity not equaled by any other means at our command. It is not possible to prove its relative efficacy by statistics as yet. In the official report to the German Government on the efficacy of KOCH's remedy 108 cases of laryngeal tuberculosis are mentioned, of which seventy-one had been more or less improved. But this report includes only experiences of from two to six weeks, and that during the time when most observers were only learning the mode of employment of the substance. More definite

statements can be obtained from the separate publications in periodic literature, but in most cases the number of cases is not fully stated.

In *phthisis* satisfactory results have been obtained, as a rule, only in *incipient* cases, *i. e.*, of short duration, weeks or months, infiltration limited in extent, no cavities and no continuous fever. KOCH himself cured his first two patients, and repeated examination has confirmed their continued good health during the last three to four months. The majority of incipient consumptives are reported as improved, at least subjectively, by most of the authors. Gain in strength, cessation of night-sweats and of evening rise of temperature, and diminution of cough, indicate a favorable change which, under the observation of GUTTMANN, is said to have occurred in 41 of 51 cases of incipient *phthisis*. The improving patients do not always gain in weight, although this often occurs. Evidently the reparative influence is counterbalanced by the increased tissue consumption during the febrile reaction, especially if the latter be intense. But a consumptive cannot be said to be cured until all cough has ceased, and no sputum containing bacilli can be obtained. A perfect cure does not necessarily imply that all abnormal percussion and auscultatory sounds have disappeared. For where there was any extensive consolidation of lung tissue we can neither expect normal breathing sound nor resonance of normal lung tissue. There will always remain a shrinkage of the involved part of the lung. But applying all reasonable criticism, we can still say that not a few cases of completely cured incipient *phthisis* are now on record. Perhaps the most favorable figures are claimed by STRICKER, who speaks of eight absolute cures among nine young soldiers with incipient *phthisis*, whilst amongst forty-seven soldiers, whose pulmonary trouble was more advanced, four could be considered completely well at the end of treatment. While many observers speak nearly as highly as STRICKER of their experience in incipient *phthisis*, especially in private and in sanitarium practice, others like SCAULTZE report but little success, but such pessimistic reports are decidedly in the minority. Yet it must be admitted that a few instances even of beginning *phthisis* get worse under the treatment, whether in consequence of or notwithstanding tuberculin, is an open question. Any continuous febrile move-

ment produced by tuberculin can be considered a contraindication against its further use.

The more advanced the *phthisis* the less can be expected of KOCH's remedy. Cases of diffuse infiltration, extensive cavities, or rapid course towards the worse have but rarely been arrested in their progress, and occasionally been injured by tuberculin. Still, with some discretion in their selection, and the cautious use of minute initial doses, they need not all be excluded absolutely from the treatment, for in a fair number of instances at least subjective amelioration has been noted. As KOCH suggested in his first note, the influence of tuberculin should be aided by all measures known to benefit such patients. The most promising results have been obtained by SONNENBURG in KOCH's hospital wards by the surgical treatment of cavities combined with tuberculin injections. Only those cases were selected in which the cavities were limited to the upper lobe of one lung; the patients being yet in a state of moderate vigor. After cutting down to the fascia with the resection of a piece of the first rib, a trocar was plunged into the cavity, the wound enlarged with the thermocautery and a strip of iodoform gauze inserted. SONNENBURG considers the operation easy and comparatively safe when there are adhesions between the two layers of pleura, and but little more serious when the pleural space still exists over the region of the cavity. He reported five cases, one of which was cured inside of four weeks while two more were on the road to recovery. One died, but from the disease, and not in consequence of the operation, while the fifth had but been operated upon just before publication. Others have since repeated the operation, but their results are not yet known.

In *pleurisy of tubercular origin* a rapid absorption of the effusion has been observed in most instances, but the pulmonary lesion itself has not been invariably benefited, its course being influenced in about the same manner and with the variable results as observed in similar instances without pleural complication.

MULTIPLE BIRTHS. — An English physician writes to the *British Medical Journal* of a woman who had twins five times, triplets once, and single children four times.

"IN SIMPLICI SALUS."

HIPPOCRATES proclaimed that "accurate observation of facts, and correct generalization from them, forms the only rational basis of medicine," and so we are taught to-day. To discover truth in science, the most learned will admit, is very often difficult, but in no science is it more difficult than in medicine. Independent of the common defects of medical evidence, our self-interest, our self-esteem, our prejudices, our likes and dislikes, and not infrequently our ignorance, only too often hide the truth from our view, and we ascribe too much to art, and too little to the operations of nature. Thus the mass of testimony is most with art, and, although we believe we are right in our reasoning, we only pursue the old, time-honored course that has been instilled into our minds through training and education. The best and safest practitioner is he who knows when to abstain from acting as well as when to act; in other words, who has learned when and to what extent the case can be left to the salutary processes of nature. The tendency to recovery which manifests itself under different modes of treatment, and even in spite of opposite modes, has induced in some minds a degree of skepticism as to the utility of any remedies. That the opposite error to that of mischievous or meddling activity may likewise be easily carried far is at once apparent. It does not follow because the majority of diseases, such as continued fevers and acute affections generally get well, with or without the administration of medicine, that therefore the disease should be abandoned to what Cullen calls the "*vis medicatrix nature*."

A knowledge of the circumstances upon which health depends is one of the most important parts of the moral and intellectual education of the true physician. The essentials necessary to the attainment of health are:

1. The inheritance of a healthy constitution.
2. Pure atmosphere and water.
3. Wholesome food in quantity and quality.
4. Freedom from contagious and infectious diseases.

Either of these primitive essentials of health is controlled but little, if any, by the individual efforts of man. To medical science solely must mankind look for the foundation rock from whence the principles governing these essentials of nature's law are to be revealed by virtue of in-

telligent, progressive, active, zealous, and truly conscientious physicians, who will, sooner or later, succeed in educating the legislator to understand and realize the fact paramount, that only through the State or municipal government can we ever hope to see mankind enjoy these blessings. Nature puts into our hands the means of preserving health, and this gift involves responsibility. Health will be counted among those talents for the use of which we are to answer to our Creator, and it is our duty to become fully acquainted with the laws which regulate and govern it.

Experience teaches that disease, as well as health, is controlled by nature, that her laws must be consulted if we would practice successfully. But alas! how often do we find—even in this most enlightened age of science—the truth as expressed by the late PROF. CHAPMAN, "That many physicians are given to profound thought, and possess extensive knowledge, united with sterling honesty, being by nature endowed with the highest order of talents, and yet be wanting in good common sense." The most experienced, close observing, earnest searchers after truth in nature's operations, most skillful and best physicians, hesitate above all things to give large quantities of medicine, and proclaim the best way to help the invalid to health is simply to "assist nature." The writings of Drs. Benjamin Rush, Shippen, Chapman, Radcliffe, Bostwick, Dumoulin, and Oliver Wendell Holmes, Sir Astley Cooper, Sir Wm. Gull, and numerous other shining lights are too well known to need reiteration, but are simply called to mind as evidence that the more matured minds in the profession are guided by the light of nature's *in simplici salus*.

EDITORIAL NOTES.

ENDOCARDITIS DURING MEASLES. —Mr. J. H. Hutchinson submitted a contribution to the Royal Medical and Chirurgical Society of London, at its meeting of April 14, 1891, in which a connection was held to subsist between measles and endocarditis, four cases being cited in which the heart affection developed during the course of the acute exanthematous disease. The opinions of the medical gentlemen present were divided on the subject, some declaring that heretofore

unexplainable cases might find solution through the possible influence of the specific poisons producing the acute febrile diseases of childhood. The cases presented by N. W. Hutchinson, though few, were yet sustained, in a measure, by the post-mortem appearances of other cases with like characteristics.

This connection—or, as we should more readily believe, coincidence—has been noted before. We quote Garrod, as follows: "Dr. Sansom is of opinion that the importance of measles as a predisposing cause of endocarditis has not been sufficiently taken into account, and he is inclined to assign to that fever a share in the production of articular rheumatism also. He has, moreover, recorded a case in which chorea, associated with pericarditis and endocarditis, developed during convalescence from an attack of measles."

SECOND CHILDHOOD.—This is often spoken of as a condition into which those of advanced life enter. The mind, disposition, and actions become child-like, until finally the evening of existence becomes no less lightsome and blank to sterner realities than maintained at the dawn of life. However that may be, we have in medicine occasional evidences which, if they do not point to a secondary physical childhood—so to speak—yet are sufficiently interesting to have note. Among these points of interest may be mentioned a case of scarlet fever occurring recently in a woman 59 years of age, and a case of whooping-cough in a man aged 84.

A PRAISEWORTHY RELIEF ORGANIZATION.—The Society for Relief of Widows and Orphans of Medical Men (British), of which Sir James Paget is President, is active in the work towards which its title points. Examples of signal benefit, in the operations of such societies, are not at all few, and, like all such acts of honorable charity, the result is of a two-fold nature.

INEBRIATISM A DISEASE.—As emphasizing the trend of professional opinion in the direction of the morbidity of inebriatism may be mentioned the proposals embodied in the President's Address before the Society for the Study of Inebriety, of London, as follows:

1. "In all criminal trials in which the alleged criminal act has been committed by the accused when under the influence of liquor, or has been committed by an inebriate, there should be an

investigation into the previous medical history of the prisoner. There should also be an inquiry into the family history, so as to elucidate the heredity with special reference to inebriety, insanity, and other neurotic affections, syphilis and gout. This twofold inquiry should be entrusted either to a medical expert, or to a mixed committee composed of a legal and medical expert acting conjointly. The object of this investigation is to ascertain how far the accused has been cognizant of his alleged criminal offence, as to whether he was competent to discern its consequences, and as to whether, if so cognizant and competent, he was able to resist the criminal impulse. Such an expert inquiry should be provided for the accused, whatever their circumstances, as a judicial provision to ensure a fair and just trial.

2. The appointment of a mixed commission of judges, counsel, solicitors, and medical experts for the consideration of the question of dealing with inebriates who have been convicted of a criminal offence. This inquiry should have special reference to the best procedure to be pursued; whether, 1, if penal, by cumulative punishment or otherwise; or, 2, if curative, by medical treatment for a diseased condition, with due provisions for classification, occupation, hygienic measures, and elevating influences."

ANOTHER DANGER IN THE PROFESSION.—CHARGED WITH KISSING.—An Irish physician was recently tried under the charge of attempting to kiss a young married woman while in his consulting room. Five thousand dollars represented the amount claimed for damages. The woman's story proved to be exceedingly incredible, and there was little doubt of its being the creation of an hysterical mind. The jury promptly found a verdict for the physician.

TREATMENT OF INFLUENZA.—Based upon his observations during the epidemic of one year ago, Dr. John William Moore, of Dublin, concludes as follows, touching treatment: "The treatment of the affection turns upon common-sense principles. It is expectant, palliative, and symptomatic. There is no specific for influenza; but the most useful drugs to employ in its treatment are, 1, quinine; 2, antipyrin (except in young children, and the weakly); 3, salicylate of sodium, especially in effervescence; 4, phenacetin; and 5, effervescing citrate of caffeine."

MEDICAL ITEMS.

MISSOURI MEDICAL ASSOCIATION.—The date of meeting of this Association is given as May 19, 20 and 21—instead of May 12, as formerly announced—and the place of meeting is to be Excelsior Springs.

ETHER DRINKING IN MICHIGAN.—A correspondent communicates to *The Medical Age* the prevalence of one sort of ether drinking—the compound spirits of ether—in the northern counties of the State of Michigan, principally among the Finns, Swedes, and Poles. It is generally consumed with alcohol or whisky.

A RARE CASE.—Dr. Thomas D. Dunn of Westchester, Pa., reports (*University Medical Magazine*, May, 1891) a case of ligation of the common carotid artery, in a child three and one-half years of age, for hæmorrhage following peritonillar abscess, and with the result of recovery of the patient. The case is remarkable, both from the disease, and the operation in one so young.

THE CHAIR OF THERAPEUTICS IN JEFFERSON MEDICAL COLLEGE.—Dr. Hobart Armory Hare was elected, April 22, 1891, by the Trustees of Jefferson Medical College, to fill the Chair of Materia Medica and Therapeutics. Dr. Hare is a young man, yet has already distinguished himself as an investigator and medical author, and will no doubt find scope for continued and added renown in the field of his new relationship.

STIMULUS FOR MEDICAL WORKERS.—Dr. Bailarger, the late eminent French alienist, has bequeathed to the French Academy of Medicine a sum sufficient to produce a biennial revenue of \$400.00, which will be offered as a prize for the best work appearing—during the intervals between which it becomes available—on the subject of mental diseases.

A RESIGNATION.—It is announced that Prof. J. M. DaCosta has resigned the Chair of Practice of Medicine at Jefferson Medical College which he has occupied with such honor for upwards of nineteen years.

CASES IN OBSTETRICS.—An interesting tabulation of the first 1,000 cases of obstetrics in the Sloan Maternity Hospital, New York City, appears in the pages of the last issue of the *American Journal of Obstetrics*. The oldest patient con-

finied was 46, while the youngest was 12 years and 10 months of age. The largest number (659) were between 20 and 30 years old. Also in the largest number (547) it was the first pregnancy, while in one case occurring in the table it was the patient's seventeenth confinement. Of the presentations 936 were vertex, and of these 610 occupied the L. O. A. position. As to operative interference, there were 112 in which it was required, as follows: induction of labor, 12; forceps, 83; version, 14; craniotomy, 3. Of twin cases there were 13, about one in seventy-seven of the whole number of women delivered. In the forceps cases the returns are certainly noteworthy. Out of the 83 cases none of the mothers died. Of the 84 children 75 were living, 9 still-born, including premature twins. In nearly all the cases the long curved forceps (McLane's) were used, both in high and low operations. Of the fatal cases in this report we have as causes chronic Bright's disease, 1; rupture of uterus, 1; placenta prævia, 1; placenta prævia with contracted pelvis, 1; eclampsia, 1; septicæmia, 1; total, 6. On analyzing these deaths it is seen that one was from chronic organic disease and not labor; in another the patient was moribund when taken from the ambulance; in a third—placenta prævia—there was much delay and great bleeding before assistance could be given. The septicæmia case was admitted while in the second stage of labor, and was in a very filthy condition. The showing, therefore, is highly creditable.

ETHER DRINKING IN IRELAND.—The statement lately put forth of the prevalence of ether drinking among certain classes in Ireland, has had confirmation before a British committee. The Rev. Dr. Carter, Rector of Cookstown, gave evidence that ether drinking was not a rarity, but quite a common practice. Children, even, were given to the habit, obtaining the intoxicant from beggar-women who tramped the country. On market days particularly a great number of people would keep themselves drunk at small expense, taking a given quantity of ether at certain intervals. Some Government action will probably be taken at an early date.

FUND FOR A BIOLOGICAL LABORATORY.—The trustees of Columbia College have determined to devote the late Mr. Charles M. DaCosta's bequest of \$100,000 towards a laboratory of biology.

TOPICS OF THE WEEK.

THE CENTENARY OF THE MICROSCOPE

It is generally thought that the invention of the microscope goes back to the close of the fifteenth century, or, to be more precise, to the year 1590, when, in the city of Middleburg, in Holland, two spectacle-makers, named Janssen, invented both the telescope and the microscope. This date for the invention, according to which its third centenary would arrive in 1890, does not rest on authentic documents, but is based on assertions published in 1665 by the physician, Peter Borel. He denied that Galileo, Drebbel and others deserved the credit of having invented the telescope; and in order to demonstrate that the invention of that instrument, as well as of the microscope, was due to the Janssens, produced some documents which showed that the two spectacle-makers, having invented the telescope in 1590, presented a specimen of it to Prince Maurice, Stadtholder of the Netherlands, and to the Archduke Albert. Later on, however, the telescope of Prince Maurice became a microscope, in a letter of William Borelli, who declared that he had always heard in Middleburg, his native city, that the Janssens had invented these optical instruments, and further that, when he was ambassador at London, in 1619, he had seen in the hands of Drebbel the identical microscope that the Janssens had presented to Prince Maurice.

Professor Govi, however, in a work which demonstrates the excellence of his judgment and his vast erudition, has collected a series of documents, which not only seem to restore the merit of the invention of the microscope to Galileo, but show the various vicissitudes of the discovery itself. The first hint of the transformation of the Holland telescope into a microscope is found in a little book published in 1610 by Wodderborn, a pupil of Galileo. Speaking of the wonderful qualities of the telescope, Wodderborn adds, in praise of Galileo, that "with the instrument could be perfectly distinguished the organs of motion and sensibility in the smallest animalcule," so that the particular formation of multiplied eyes in very small animals could be perceived. This new application of the telescope by himself Galileo did not deny, though he never directly affirmed it. In the National Library at Paris is preserved a letter by Canon Tarde, in which he speaks of visiting Galileo in Florence, in 1614, when the latter was sick in bed. Notwithstanding, to Tarde Galileo gave ample explanation of a microscope then in his possession.

Whether the invention of the simple microscope be due to Janssen or Galileo, to Drebbel is due the merit of having produced at Rome, in 1624, the compound microscope. The difference between the two hardly needs explanation. The simple microscope magnifies with a single lens, or with several lenses so close together that they act like a single lens. The compound microscope has two or more lenses, separated by a convenient distance from each other, and which act separately. In 1669, Eustachio Divini constructed a colossal microscope which magnified 140 times. A little after, Bonannus invented a horizontal microscope which magnified 300 times.

In the seventeenth century were laid the foundations of micrography, a science which, by the study of the minute anatomical elements and their functions, has made such great progress under the name of histology, and been such a fertile cause of important discoveries. With the microscope, Malpighi, by the minute examination of the tissues, confirmed the theories about them he had previously formed; Leuwenhoek discovered the globules of the blood and the structure of the nervous fibres; and Swammerdam dissected insects, of the most minute organs of which he gave descriptions still considered perfect.

In the eighteenth century, observes Henocque, but few modifications were made in the microscope. To mention all the improvements made in the instrument during our century would be tedious. During the last forty years enormous advances have been made in science by the aid of the microscope, of which the usefulness has been greatly increased by the skill with which the matter to be examined is prepared, and by the aid of photography. Micro-photography dates from 1840 only; but since that date it has had an uninterrupted series of noteworthy improvements.

Besides histology, created by the microscope, by which our acquaintance with the most hidden structure of organisms is constantly increasing, bacteriology, with its rapid succession of discoveries of the highest importance, owes its existence to the microscope. Those little beings, those microorganisms, which, by the change of the medium in which their evolution is effected, can produce so much good or so much evil, and of which it takes several millions to occupy the tenth part of half an inch in space, can now be identified according to their species, notwithstanding their changeable aspect. We can estimate the rapidity of multiplication, the number, the dimensions, and the singular manner in which by dividing themselves, or by means of a sort of buds or spores, the microorganisms reproduce themselves.

In the examination of the inorganic world the microscope has had results not less precious. The wonderful phenomena of crystallization, the exact form of the crystals, the more precise in proportion to their minuteness, the modifying properties of the light called forth by the thinnest layer of a mineral, the interior texture of rocks, all these can be studied with a precision impossible before the invention of the improved microscope. And, finally, not to mention all the triumphs achieved by the instrument, it has had an application which formerly would have seemed paradoxical, since the microscope has been employed to show the particulars of the nature of the surface of the planets, particulars which have been made clear by microscopic observations of instantaneous photographs.—Ernesto Mancini, *Nuova Antologia, Literary Digest*.

MEASURING THE PERCEPTION OF ODOR.

At a recent meeting of the French Academy, Secretary Berthelot exhibited a new instrument called the "olfactomètre." The inventor is M. Charles Henry. The object of the apparatus is to determine the minimum rate

of odiferous vapor per cubic centimetre of atmospheric air perceptible to the human olfactory nerves. The olfactometer consists principally of a graduated glass tube which moves within a paper envelope. The tube is held to the nose and the paper gradually withdrawn. As soon as the subject of the experiment perceives the odor of the material contained within the glass tube, the latter is withdrawn, and the quantity of vapor which has escaped is calculated from the known capacity of the tube, and the degree marked by the paper envelope. The cubic space affected by the odorous vapor is simultaneously determined by means of a small areometer. The inventor of the instrument shows that the perceptibility of different odors by different subjects varied enormously, the two limits of his experiments falling between 2 milligrams of ether per cubic centimetre, and one-thousandth of a milligram of oil of wintergreen per cubic centimetre.

FRIEDLANDER'S PNEUMOCOCCUS AS A FERMENT.

It has been known for some time that Friedländer's pneumococcus is capable of inducing fermentative changes in suitable solutions of glucose and cane sugar, this having been first discovered by Brieger. His observations have quite recently been confirmed by Dr. Percy Frankland, Mr. Arthur Stanley, and Mr. William Frew, who have just communicated a paper on the subject to the Chemical Society of London. They further found that the organism ferments maltose, milk sugar, raffinose, dextrin, and mannitol, but that, like the bacillus ethaceticus, it does not attack dicitol. They made a special study of the fermentations of glucose and mannitol, determining quantitatively the proportions in which the several products are formed. These products are in each case ethyl. alcohol, acetic acid—generally accompanied by a little formic acid and a trace of succinic acid—carbon dioxide, and hydrogen. Both the glucose and mannitol were in all cases only partially fermented, and the decomposition of the glucose was especially incomplete, glucose being apparently less readily attacked by the organism than mannitol and cane sugar. The fermentation was not rendered more complete by furnishing the organism with a more abundant supply of nitrogenous food. The products of the mannitol fermentations were not only qualitatively similar to those obtained in the fermentation of the same substance by the bacillus ethaceticus, but the relative proportions in which they were formed were almost identical, the ratio corresponding closely to the molecular proportions $2\text{C}_6\text{H}_{12}\text{O}_6 : \text{CH}_3\text{COOH}$.—*The Lancet*.

THE POPULATION QUESTION IN FRANCE.

This subject naturally continues to exercise the minds of French statisticians and scientists. Dr. Jomilleff discusses it in the February number of the *Archives de Toxicologie*. The true cause of the stationary population appears undiscovered—perhaps the theory that the race is naturally not prolific, or that climate and habits are against fertility is correct. Levasseur, Dr. Jomilleff notes, has recently shown that the question of professions and socio-religious ideas has little direct influence on fertility.

Thus statistics make members of the liberal professions less prolific than farmers and business men, but the liberal professions best allow celibacy, or often enforce it, and late marriages are common. Social and religious ideas seem to have little influence, contrary to what might have been supposed. In strictly religious communities—Protestant as well as Catholic—a large family is held to be an honor, if not a blessing, and checks to impregnation are deprecated. Yet statistics show that the fertility of such communities is not higher than that of large bodies of men and women, chiefly laborers, where the religious element is weak and where checks are openly tolerated. Brittany, the Maritime Alps, and Corsica are fertile in children, and the population are strict in religious observances and almost free from corrupting influences; yet the inhabitants of the valley of the Garonne, also a strict and pious folk taken as a whole, have very few children. Lastly, some districts where the peasants are comfortably off, have a low fertility, others show an increasing population, whilst the same irregularity is seen in different departments, where the country people are poor and ill-fed.—*British Medical Journal*.

THE INFLUENCE OF EXERCISE ON DIGESTION.

Dr. Streng, in a lecture before the Medical Society of Giessen on the Influence of Exercise on the Digestion, which has been published in the *Deutsche Medicinische Wochenschrift*, states that he concludes from his own experiments that this influence is of a retarding nature. His experiments, however, suffer from the fact that he always injected 300 cubic centimetres of water before obtaining the contents of the stomach, so that the proportion between gastric juice and water continually varied. The first experiments in the clinic at Giessen were made on two dogs. Twenty-five grams of meat, suspended in 300 cubic centimetres of warm water, were twice injected into the fasting stomach, and after one feeding the dogs were compelled to remain for three hours in absolute bodily rest, while after the other feeding they were made to take active exercise. After the three hours the contents of the stomach were obtained and analyzed. The quantity did not essentially differ in the two cases; the experiments consequently tended to prove that exercise does not influence the time required for digestion. The chemical analysis also detected no difference. The same results were obtained by substituting the white of an egg for the meat. The experiments were then repeated twenty-five times on three men with healthy stomachs. Two of these suffered from syphilis, and the third from incipient muscular atrophy. They were fed each time with 200 grams of minced meat, a bun, a plate of bouillon, and three spoonfuls of mashed potatoes, and the contents of their stomachs were obtained four hours and a half afterwards. The exercise after meals consisted partly in gymnastics, partly in walking; absolute rest was obtained in bed. These experiments gave the same results as those on the dogs, the difference resulting from the chemical analysis being especially imperceptible. The author therefore concludes that the gastric function is in no way influenced either by muscular action or by absolute rest.—*The Lancet*.

PRACTICAL NOTES.

INFANTILE DIARRHŒA.

1. Withdraw all milk for from twenty-four to thirty-six hours. 2. Regulate the quantity and quality of the food and the frequency of giving it. 3. Give plenty of cool water. 4. Reduce the temperature with the bath. 5. Give medicines of an antiseptic and astringent character and stimulants as needed. 6. Wash out the colon two or three times a day.—*Archives of Pediatrics*.

IODOFORM AND ARISTOL.

Dr. Richtmann recommends (*Nouveaux Rem.*) that aristol be used to replace iodoform, since it presents all the advantages of iodine and thymol without any of their disadvantages. Aristol does not cause irritation; its absorption is not followed by any phenomena of intoxication, and its odor is not disagreeable. Being less volatile than thymol, its use is especially indicated in extensive burns. It may be prescribed as a powder, or an ointment, or given in solution. The preparations used by Richtmann are as follows:

- R. Aristol pure, gm. 10.
- S. For external use.
- R. Aristol, gm. 1.
- Ether, gm. 10.
- S. For external use.
- R. Aristol.
- Ol ricini aa, gm. 1.
- Collodion, gm. 8.
- S. As a paint for the region affected.
- R. Aristol, gm. 2.
- Paraffin ointment, gm. 18.
- S. For local application.
- R. Aristol, 1 to 5 cgm.
- Cocoa butter, q. s.
- S. For urethral or vaginal bougies.

—*Medical Standard*.

SEDATIVE FOR BABIES.

Dr. Van Goidtsnoven, of Atlanta, gives a formula with which he has had most gratifying results in restlessness, spasms, deliria, and in all cases requiring a sedative, anodyne, anti-spasmodic or somnifacient.

- R. Camphor. monobromat., gr. xvi.
- Ext. hyoscyami fl., gtt. xvi-xxx.
- Syrup lactucarii (Aubergier's), fʒviij. ʒj.
- S. A tablespoonful every hour till relieved.

—*Dixie Doctor*.

PHENACETIN IN SCIATICA.

Sciatica is not only one of those affections which are extremely annoying and painful to the patient, but on account of its persistency often greatly tries the patience of the physician. At the clinic of Prof. Landon Carter Gray most benefit has perhaps been obtained from phenacetin, given, say, in tablets of four to eight grains every three or four hours. There are a good

many cases, however, which do not respond to it very markedly. Doubtless, too, there are many cases of sciatica neuritis, rheumatism, gout, etc., in which a diagnosis of sciatica is erroneously made; but perhaps more frequently sciatica is mistaken for one of these affections.—*Practice*.

BISMUTH FOR ECZEMA OF INFANTS.

The following formulæ are given in *Nouveaux Remèdes*:

- R. Bismuth. subnit., ʒv.
- Zinci oxid., ʒss.
- Acidi carbolic., m. x.
- Vaseline, ʒj. ʒj.
- To make an ointment.

In case there is much irritation paint on the following with a soft brush:

- R. Bismuth. subnit., gr. xl.
- Glycerine, ʒijss.
- Acidi carbolic., gtt. vj.
- Aque rosæ, ʒiv. ʒj.
- To be well shaken.

RESORCIN IN ACNE.

Isaak recommends the following:

- R. Resorcin, ʒj to ijss.
- Zinci oxid. pulv., aa ʒijss.
- Amyli pulv., aa ʒijss.
- Liquid vaseline, ʒv. ʒj.

Rub on the part affected morning and night, or it may be used at night only, and removed in the morning with sweet oil.

ACUTE BRONCHITIS.

The citrate of potassium is a favorite remedy of Dr. H. C. Wood in acute bronchitis; his formula is, he says, the most reliable and efficient sedative cough mixture that he has ever used:

- R. Potass. citrat., ʒj.
- Suc. limonis, fʒij.
- Syr. ipecac, fʒss.
- Syr. q. s. ad., fʒvj.

Sig. A tablespoonful four to six times a day.

Another favorite expectorant with this writer is oil of eucalyptus, which may be given in five minim capsules every three hours. It is only of use after expectoration is established.

MOUTH WASH.

David uses the following mixture as a tonic and antiseptic mouth wash (*Medical News*, February 21, 1891):

- R. Thymol, 7 grs.
- Borax, 15 grs.
- Water, 1½ ozs. ʒj.

A few drops of this are to be placed in a wine-glassful of warm water, and the mouth rinsed with it. In cases in which the breath is fetid, owing to deposits about the tonsils and gums, the following wash is said to be serviceable:

- R. Borate of sodium, 15 grs.
- Alcohol, ½ drachm.
- Water, 1 pint.
- Thymol, 7 grs. ʒj.

SOCIETY PROCEEDINGS.

Gynecological Society of Boston.

Annual (218th Regular) Meeting.

The Gynecological Society of Boston held its 218th regular meeting at the Medical Library on January 8, 1891, with the PRESIDENT, W. SYMINGTON BROWN, M.D., in the chair.

THE ANNUAL ADDRESS ON GYNECOLOGICAL PROGRESS

was delivered by the President, who said: Our third by-law requires that the retiring President shall deliver an Address upon the previous year's progress in gynecology,—a law, by the way, which, since my connection with the Society, has been rarely attended to. On the present occasion I propose to discuss very briefly a few recent suggestions by prominent gynecologists, principally relating to menstruation.

Dr. E. C. Gehrung, of St. Louis, read a paper before the American Gynecological Society at its meeting in Boston, in September, 1889, on arrest of menstruation. He thinks that sanguineous menstruation is an abnormal process, an inherited disease, eventually to be got rid of through the Darwinian process of evolution. He says that "menstruation is not necessarily sanguineous." The practical part of the paper consists in a proposal to arrest menstruation in all cases where the loss of blood would be injurious to the patient. He asserts "that bloody menstruation, whether profuse or scanty, may be safely repressed (preferably by the vaginal tampon) whenever the individual cannot or should not spare the blood thus wasted, and that great benefits may be derived from this restriction in otherwise incurable or partly curable cases." Dr. Gehrung has practiced this method successfully for several years. The vagina is thoroughly tamponed, a new tampon being inserted every 48 or 60 hours. Another member said that he also had employed this method with great success.

Dr. Johnstone, of Danville, Ky., strenuously objected both to the theory and to the treatment. He believes that menstruation results from the erect posture, as proved by the fact that menstruation occurs in the higher apes, who stand erect, or nearly so, most of the time. Quadrupeds possess a rich plexus of lymph vessels connected with the womb; whereas the human uterus is almost destitute of such vessels. The proposed treatment did not seem to meet with much favor by those present at the meeting.

Dr. A. W. Parsons, of Northampton, Mass., proposes to do away with napkins during menstruation and substitute an antiseptic tampon, inserted through a glass speculum, as soon as the premonitory symptoms appear. This is removed when saturated and another roll inserted. Dr.

P. claims that the tampon supports the congested uterus and is more cleanly. I have not learned that this suggestion has been generally adopted by women and scarcely expect that it will be practiced. One serious objection is that it necessarily keeps the vaginal walls apart, which naturally are in contact; and, judging from my own experience, it is a very difficult thing to induce patients to insert a cotton or wool tampon, even when it is needed to counteract prolapsus. They prefer to wear a pessary, which does not need to be removed for weeks or months. If used as a substitute for napkins, the tampon should consist of wool, with a covering of cotton, and a string attached to facilitate removal.

Dr. H. P. C. Wilson, of Baltimore, recommends the performance of laparotomy during menstruation. He refers to the paper of our Dr. H. R. Storer, read at the first meeting of the American Gynecological Society in 1876,¹ in which Dr. S. concludes "that for pelvic operations, all things being equal, it is better to select the week immediately following the cessation of the catamenia for all such operations." Dr. Wilson differs from this conclusion. He says, "for laparotomies involving the pelvic organs, my experience teaches me to select the uterine flood rather than the uterine ebb." This is the opinion of a surgeon who has had abundant opportunities to test it, and who is well known for conservative tendencies; and I think that the majority of gynecologists are now of the same opinion.

The question so frequently discussed during the last ten years, whether menstruation depends on ovulation or is independent of that process, has had some light thrown on it by a case recently reported in the *British Medical Journal* (Sept. 27, 1890). Dr. J. A. Robertson reports the case. The woman was 23 years of age. She commenced to menstruate before she was 14 years old, and continued to do so regularly for six years. During the following three years the quantity became less and less and the periods irregular, until Sept., 1887, when the flow stopped entirely. Pain, from the ovaries, extending to the top of the sacrum, kept constantly increasing; lately she spat up blood every day. Both ovaries were removed on Jan. 29, 1889, and the patient made a good recovery. She began to menstruate the following April, and continued to do so regularly until October. In June she was married, and was delivered of a boy August 13, 1890, which weighed about 10 pounds. The labor was protracted, forceps were used, and the child was still-born.

I think it is evident that a portion of one ovary must have been left, or supplementary ovarian tissue existed; and the fact that impregnation resulted weakens the Tait argument that menstruation is independent of ovulation. Dr. R. says:

¹Dr. Storer's paper does not appear in the *Society Transactions*. It was afterwards published in the *Edinburgh Med. Journal*.

"I was not aware of leaving any ovarian tissue. Indeed, my aim was to extirpate the ovaries thoroughly, and I thought I had done so. I suspect, however, that a small portion of healthy ovarian tissue had reached up to or beyond the hilus of the right ovary, and that this may have taken on regular ovarian functions. This, of course, is merely conjecture."

Dr. L. C. Coe has an excellent paper in the *Medical Record* for August 9, 1890, on "The Dangers attendant upon Artificial Prolapsus Uteri." These are: overstretching of the ligaments; tearing of adhesions; starting inflammations; and causing an abscess to burst internally. I have no doubt that the rude way in which the uterus is often brought down to the vulvar orifice occasionally causes one or more of these mishaps. We are too much disposed to copy the doings of German hospital surgeons, who operate on a class of women widely different in constitution from the bulk of our American women. And while I do not say that artificial prolapsus should never be produced, I think that the seldomer it is had recourse to the better it will be for our patients.

The uterus normally is the most movable organ in the body. Practitioners sometimes forget this fact, and try to fix an organ by a pessary or otherwise, which nature intended should be allowed a great deal of freedom. And the practice of gynecology seems to change its position about as freely as the uterus itself does. No specialty I am acquainted with is so much subject to fashionable changes as ours is, keeping pace with the multimorph revolutions which fashionable clothing inaugurates. But I need not waste your time by proving an assertion which I scarcely expect will be disputed.

Before closing allow me to call your attention to a few personal items. I believe that a greater inclination to look after constitutional measures than formerly has arisen in the profession. Dr. Field and the late Dr. Warner did more than the rest of us to bring about this result. I hope to see some of the younger members follow in their footsteps; for the constitutional field is not yet thoroughly gleaned.

Some progress has also been made in recording the after effects of surgical operations. Sir Spencer Wells inaugurated this reform, and has spent more time in perfecting it than any other surgeon. One of the most recent discoveries in this field is that a mild melancholia, generally of brief duration, is apt to follow surgical operation on the genital organs. I have seen one case recently, and several others have been reported to me.

So far as I am aware there has been only one death of an active member during the past year. Several members have resigned, but at least an equal number have joined our Society in 1890. I am pleased to see that a considerable number of the new members are young men, full of en-

ergy, believers in the virtue of cleanliness, some of whom will probably leave names behind them which the medical world will "not willingly let die."

If I might be allowed to give a hint to men much better qualified than myself, it would be this: Cultivate an *esprit du corps*. We are members of the oldest Gynecological Society in the world—not in itself a slight honor. Let us make up our minds to stand by one another, to take an interest in one another's success in consultation and otherwise; subject, of course, to the welfare of the patient, which is the first dogma in every good surgeon's creed. And I have no doubt, when the time comes for each of us to render an account of our stewardship, he or she will not be embarrassed by the reflection that "it is more blessed to give than to receive."

Tennessee State Medical Society.

Fifty-Eighth Annual Meeting held in Nashville, April 14, 15, and 16, 1891.

(Concluded from page 644.)

SECOND DAY—AFTERNOON SESSION.

DR. A. J. SWANEY, of Gallatin, contributed a paper on

RETAINED PLACENTA IN MISCARRIAGE; HOW SHALL WE TREAT SUCH CASES?

He said the dangers from retained placenta in miscarriage were hæmorrhage and septicæmia. When the delivery of the placenta is prolonged ought we still to abstain; ought we to wait or ought we to interfere actively in order to forestall these dangers which almost certainly will result and further interfere at a time when it is far easier than later to remove the placenta? Those who favor active interference are Tyler Smith, Murray, Simpson, Leishman, Mundé, Grandin, and many others. The reasons given for active interference are the frequency of these dangers in prolonged delivery of the placenta. Simpson directs that if the cervix is dilated or patent to act at once; if it is not dilated he dilates it at once. The woman is then anesthetized, the uterus depressed as much as possible by the external hand and with the index finger of the other hand he removes the placenta and membrane. If he cannot sufficiently depress the uterus with the hand he does not hesitate to forcibly drag it down by a double tenaculum fixed in the cervix. Mundé and Grandin go still further and curette the cavity of the uterus with special instruments made for the loosening of adherent placenta and its removal from the uterus.

The authorities who counsel waiting for serious complications before interfering are just as many. We mention Ramsbotham, Davis, Burns,

Fleetwood Churchill, Grailey Hewitt, and many others. Active intervention does not mean unnecessary interference. Nature is ever to be given a chance, but when we see that her efforts are futile certainly it is but rational to assist her, and this should be done as directed by Mundé, by placing the woman in the left lateral position and with a dull wire curette remove the placenta or any part of the secundines that may remain through a Sims speculum. This is far better and easier than the method advised by Simpson, of dragging or pressing down the uterine and introducing the finger into the uterine cavity. The uterine cavity should then be washed out with hot water, slightly carbolicized, through a Jameson's uterine douche, and this should be repeated every six or eight hours until all fœtus disappears from the lochial discharge.

Hæmorrhage after miscarriage, even when we believe the placenta and secundines have been removed, invariably means retention of a part of the placenta or secundines, said the speaker. Profuse hæmorrhage may occur for weeks from this cause, and in such cases we should boldly explore the uterine cavity and remove any offending matter that may be present. In the first twelve weeks of pregnancy the dangers from hæmorrhage and septicæmia are not so great and the expectant plan is more justifiable. After the third month it is criminal negligence to wait and subject a woman to the dangers arising from retained placenta when she can be relieved by an operation, which, if properly done, can do no harm, and spare her the risk of hæmorrhage and septic poisoning. In short, the author believes the early removal of the secundines is easy and safe, and forthwith guarantees the woman against the dangers of hæmorrhage and sepsis.

DR. J. L. JONES, of Bells, read a paper entitled

INDIGO AS AN EMMENAGOGUE,

in which he said his attention was first directed to this drug as an emmenagogue in July, 1887, from an essay published in the *Medical and Surgical Reporter*, of Philadelphia, by Dr. S. L. Gount, of Lafayette, Ind. Acting on the suggestions offered by Dr. Gount, he had used it in many and various cases.

His first case was a young lady, 20 years of age, who had not menstruated in five months. He had been treating her for three months with the usual remedies without any effect, so he made up his mind to give indigo a trial, which he did. He ordered indigo ʒij, subnitrate of bismuth ʒss, well mixed. Of this the patient took one-half teaspoonful in one-third of a glass of water, three times daily, for nearly four weeks, when one day he was sent for in great haste. On his arrival he found the patient in bed, and comfortable. He was then told by the mother that her daughter, while walking in the garden, without pain or

warning of any kind, began to flow. The gush was followed by a gentle flow which lasted only for a short time. In five days she was well, and has not suffered from amenorrhœa since. Dr. Jones has since used indigo in thirteen cases with but one failure, and this case proved to be pregnant.

During the administration of the drug the os uteri becomes soft and patulous, admitting the end of the index finger. There is often a serous discharge from the vagina. The urine becomes brownish green in color, and its odor is offensive. The stools are watery and offensive.

THIRD DAY—MORNING SESSION.

DR. J. A. WITHERSPOON, of Columbia, read a paper on

DIABETES,

in which he confined his remarks principally to diabetes mellitus. He said the term diabetes mellitus is a symptomatic one, being a deviation from health in which the processes of nutrition are seriously deranged, and presenting a group of complex symptoms, the most conspicuous of which are, first, frequent micturition, passing large amounts of pale, saccharine urine. Coincident with this is an insatiable thirst and dryness of the mouth and fauces, which is by far the most annoying symptom, the freest draughts of water giving but little or no satisfaction. The skin becomes dry and harsh, with complete absence of perspiration, and followed by a general pruritus, sometimes impossible to relieve. These were some of the many symptoms of the disease.

The etiology of the disease is yet an unsolved problem. It is an affection of adult life, but few cases being reported in children, and those always fatal. The only recovery reported, so far as the speaker was aware, was a girl 12 years of age.

The treatment is conveniently divided into dietetic, medicinal, and the hygienic. The dietetic is by far the most important. We must exclude from the bill of fare all food stuffs containing starch or sugar, for two reasons: 1. The normal action of the liver in its glycogenic function is seriously deranged and incapable of oxidizing the maltose sent to it by the digestion of carbo-hydrates, and they are therefore useless aliments. 2. They seem to aggravate and increase the glycosuria. A strict meat and green vegetable diet agrees better than any other. Some give milk, others forbid it entirely. He had found in the few cases he had treated that it was impossible to continue for long periods any one diet. The pure skim-milk diet is meeting with much favor. Alcohol, and all spirits, except small quantities of light wine or beer, must be forbidden. This regimen alone will lessen the quantity of sugar eliminated, but it is necessary to use in connection certain medical treatment. The drugs

giving the best satisfaction are opium, of its alkaloids, morphia or codeia; ergot, arsenic, and many others. Of all the drugs mentioned, codeia has been by far the most satisfactory in Dr. Witherspoon's hands. It was first suggested by Dr. Pavy, of London, and has the great advantage over its sister alkaloid, morphia, in not producing sleep. It is more efficient, less dangerous, and does not produce the troublesome constipation caused by morphia or opium. Next to it, the speaker would place ergot, for its physiological effect upon the blood-vessel walls. Recently sulphonal and antipyrin have been used with reported good results. He had never used antipyrin in this disease, for the reason that it is recommended in from 30 to 60 grain doses. He did try sulphonal in 10-grain doses, three times a day, and in two days it produced so much giddiness and sleepiness that he quit giving it. He had only used arsenic as an alternative tonic after the sugar had disappeared from the urine. With this treatment the patient should be advised to take light exercise, always short of fatigue, and their surroundings should be good and well ventilated. Alkaline carbonated waters are often of great utility.

TREATMENT OF STRICTURES OF THE MALE URETHRA.

This was the title of a paper read by Dr. J. W. HANDLY, of Nashville.

He said strictures of large calibre, if they be recent, but poorly organized and of the linear variety, may be treated by dilatation, which must be continued for months. But should the stricture be densely fibrous, and not easily dilatable, the cutting operation becomes necessary, for which purpose he prefers the Otis improved dilating urethratome with which the surgeon can accurately divide any stricture to any size desired.

Strictures of small calibre, situated in advance of the bulbo-membranous junction, unless seen very early and found to be unusually soft and dilatable, furnish a typical condition for internal urethrotomy, that in which it is attended with the least possible danger and greatest prospect for a permanent cure. Should the contractions be so great that the Otis urethratome cannot be used, he had found Bank's whalebone dilators, which are made in four sizes, of great advantage in opening the canal so as to admit of the urethratome, and considered them very useful.

Strictures of small calibre posterior to the bulbo-membranous junction require a very different course of treatment, since internal urethrotomy at this point is often attended with profuse hæmorrhages, fever, rigors, or other disturbances equally as disagreeable. Strictures of this variety permeable only to filiform bougies, may be treated in one of the four following ways:

1. After the filiform has been introduced it

may be allowed to remain *in situ* for two or three days and another passed alongside of it to serve as a guide for the introduction of a tunnelled sound, later to be followed by the ordinary soft or steel bougies. This is good and safe surgery in the absence of retention.

2. The surgeon may attempt to conduct a tunnelled sound over it at once, to be followed by gradual dilatation.

3. He may conduct over it a grooved staff and then proceed to the performance of external urethrotomy, or,

4. He may use the staff as a guide for the Massionneuve urethratome and may immediately perform internal urethrotomy.

OFFICERS FOR 1892.

The following officers were elected for the ensuing year:

President—Dr. J. W. Penn, Humboldt.

Vice-President for Middle Tennessee—Dr. J. A. Witherspoon, Columbia.

Vice-President for East Tennessee—Dr. C. E. Ristine, Knoxville.

Vice-President for West Tennessee—Dr. C. H. Lovelace, Padukedon.

Secretary—Dr. D. E. Nelson, Chattanooga.

Treasurer—Dr. J. P. C. Walker, Dyersburgh.

Next place of meeting, Knoxville, second Tuesday in April, 1892.

DOMESTIC CORRESPONDENCE.

Forced Respiration.

To the Editor:—In a recent number of THE JOURNAL I find an address by Dr. G. E. Fell, on "Forced Respiration." Allow me to draw your attention to an article which appeared in the year 1822, and which may possibly be of interest to the medical fraternity.

I am in possession of the *London Journal of Arts and Sciences*, Vol. 3, London, 1822, page 93: "Account of an apparatus for restoring the lost action of the lungs, in consequence of suspended animation from drowning, etc.; invented and communicated by John Murray, Esq."

There is, perhaps, no subject which ought to excite a deeper interest, than that of suspended animation. The number of human beings who are hurried suddenly out of existence, by being deprived of that necessary pabulum, atmospheric air, form annually a lamentable catalogue; and, although a Goodwin, a Hawes, a Cogan, and many others of the benevolent of our species, have done much in exciting attention to this interesting subject, yet it is to be lamented, that the scientific world has not paid so much attention to it, as its importance most unquestionably and imperiously demands.

FORSAN SCINTILLA LATEAT.

Plate 4, figs. 3, 4, and 5, exhibits drawings of an apparatus, which I have invented for restoring the lost action of the lungs. It consists of two cylinders concentric with each other: the inner one is three inches in

diameter, the exterior one four inches, forming a space of half an inch round the cylinder, which is to be occupied with water, heated to 98 degrees, the animal temperature to elevate the air contained in the interior cylinder to that degree.

The piston is solid, and moves horizontally; the piston rod is perforated, to receive a metallic pin, which, being introduced, shortens the stroke, checked, by the plate covering the end of the cylinder, and gives the means of apportioning the volume of air to the capacity of the lungs, which is to be determined by the victim of experiment being of tender age, or adult. This will obviate the danger of rupturing the lungs. To the pipe proceeding from this cylinder, is affixed a cell and cock, with an elastic tube terminating in a mouth-piece and plate of leather.

The stopcock is so constructed, that, when the handle is parallel with the pipe, as in the figure, there is a free communication established between the lungs and the cylinder, to the exclusion of external air. When on the other hand the cock is turned the quadrant of a circle, the communication with the lungs is cut off, and there is a free channel opened between the cylinder and the external atmospheric air.

The lateral cell, appended to the cock, will be found of varied use and importance. Should the subject of experiment have been the victim of carbonic acid gas (choak damp), a drop or two of ammonia may be mingled with the air in the cylinder, and when thrown into the lungs will condense the mephitic gas. If a septic poison—as sulphuretted or arsenicated hydrogen—have occasioned the asphyxia, a few drops of solution of chlorine or nitromuriatic acid will destroy the septic virus. Should the atmosphere be too dry, a small portion of water put into the cell, will mix with the air, and impart additional elasticity; and if we desire an additional stimulus, a drop or two of ether posited here, will expand in the air of the cylinder, and this mixed atmosphere will act with all the consequence of nitrous oxide. These provisions for various reasons, are valuable auxiliaries in returning respiration.

When the machine is to be used, the victim of suspended animation is to be raised in a gently inclined position opposite to the operator; the nostrils are to be plugged up, and the plate of leather fixed on the mouth, as nearly air-tight, by means of white of egg, etc., as possible; this must be kept in its position by means of a ribbon tied round the head. The operator over against the victim, manages uniformly and equally the piston. The apparatus being adjusted in the manner described, the air is first withdrawn from the lungs, and then ejected laterally; and the piston rod being drawn to the extremity of the cylinder—if an adult—the pure atmospheric air fills the instrument; the communication with the lungs being restored by turning the stopcock parallel with the pipe, the operator begins. About twenty plunges of the piston a minute may be the proper number. It will not be necessary to change the included air until natural respiration is restored; because, until this does take place, the blood cannot eject its excess of carbon, the consequence of the circulation of that fluid; but when this is required, it is instantly accomplished in the manner already described.

This invention has met with the most unequivocal testimony of approbation from several eminent physicians and surgeons, and gentlemen of distinguished mechanical genius.

The apparatus, with my latest improvements on it, of which a drawing accompanies this paper, is formed of Britannia metal, and has been presented by me to the Royal Humane Society. It is made to rest in a groove, which may be easily fixed to a table by means of a clamp. It possesses an attached pin, which being fixed into the perforated piston rod, readily apportions the injected air to the capacity of the lungs, whether of an adult or child. Hence there can be no danger of injuring the lungs. The

flexible tube should be formed of caoutchouc, and be perfectly elastic and pliant like the bougies.

In this improved apparatus, the heated water—which will be better at some degrees above 98 to compensate for the loss of temperature sustained by the conducting of the metal and the transit of the air through the pipe into the receptacles of the lungs—is supplied exteriorly to the cylinders and above; thus affording every facility of ascertaining the temperature by a thermometer. There is also an exit pipe, with a stopcock to permit the water when cooled, to flow, so that without altering the position of the apparatus in the least, it may be supplied with heated water anew. The valve which communicates with the lungs, is Mr. Trevithick's conical one, used in the steam engine. The internal cylinder, being one foot long and three inches in diameter, will contain 8.42 cubic inches of air; about half this extent will be sufficient for an ordinary inspiration.

A. W. HERZOG, M.D.

Hoboken, N. J.

MISCELLANY.

LETTERS RECEIVED.

- Aberdeen, S. Dak., Aberdeen Daily News Co.
 Albuquerque, N. M., Dr. J. P. Kaster.
 Bellefontaine, O., Dr. W. W. Hamer.
 Boston, E. L. Damrell.
 Brooklyn, N. Y., Dr. R. M. Wyckoff, Dr. Albert Gibon, Dr. L. D. Mason, Dr. F. C. Raynor.
 Chambersburg, Pa., Dr. R. W. Ramsey.
 Chicago, Dr. L. L. McArthur, Dr. L. H. Mettler.
 Chilhowee, Mo., Dr. C. T. Sweeney.
 Cincinnati, O., J. Taft.
 Coquille City, Ore., Dr. W. C. Owen.
 Corinna, Me., Dr. O. H. Merrill.
 Dallas, Tex., Dr. D. Green.
 Denver, Col., Dr. C. R. Crandall.
 Detroit, Mich., Citizens' Savings Bank, Dr. E. L. Shurty.
 Eagle Grove, Ia., Dr. C. H. Morse.
 Elmore, Wis., Dr. William Hausmann.
 Florence, Ala., Dr. E. L. Jones.
 Galveston, Tex., Dr. Geo. Dock.
 Indianapolis, Ind., Dr. E. S. Elder.
 Jersey City, N. J., Dr. E. Voelcker.
 Leigh, Neb., Dr. F. C. McKinley.
 Lincoln, Neb., Dr. F. S. Billings.
 Livingston, Mont., Dr. W. H. Campbell.
 Lodi, Cal., Mrs. J. L. Sargent.
 London, Eng., Kegan Paul, Trench, Trübner & Co.
 Montgomery, Vt., Dr. B. W. Davis.
 Nashua, N. H., Londonderry Lithia Spring Water Co.
 New York City, Reed & Carrick, A. L. Chatterton & Co., Chas. H. Phillips Chemical Co., The Drevel Mfg. Co., J. Walter Thompson, J. H. Bates, Dr. Jas. Moran, W. P. Cleary, Geo. P. Rowell & Co., F. H. Drake & Co.
 Panama, Ill., Dr. C. O. Sones.
 Paris, Tex., Dr. Wm. M. Moore.
 Philadelphia, Dr. R. J. Dungleison, Dr. J. H. C. Simes, Dr. A. L. Hummel, N. W. Ayer & Son.
 Robertsdale, Pa., Dr. W. H. Johnson.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 23, 1891, to May 1, 1891.

- Capt. George E. Bushnell, Asst. Surgeon U. S. A. (Camp Pilot Butte, Wyo.), is granted leave of absence for twenty-one days, to take effect on or about May 1 next. Par. 9, S. O. 49, Dept. Platte, Omaha, Neb., April 20, 1891.
 Lieut.-Col. James C. McKee, Surgeon, having been found incapacitated for active service by an Army Retiring Board, is relieved from further duty as attending surgeon and examiner of recruits at Philadelphia, Pa., and will proceed to his home and report by letter to the Adjutant General of the Army. By direction of the Secretary of War. Par. 3, S. O. 96, A. G. O., Washington, April 28, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending May 2, 1891.

- Asst. Surgeon George A. Long, granted two months' leave of absence.
 Medical Inspector A. A. Hoehling, detached from Navy Yard, League Island, and waiting orders.
 Surgeon W. H. Jones, ordered to Navy Yard, League Island.
 P. A. Surgeon O. D. Norton, detached from Naval Hospital, Chelsea, Mass., and waiting orders.
 P. A. Surgeon F. J. B. Cordeiro, ordered to Naval Hospital, Chelsea, Mass.

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No. 20.

ADDRESSES.

UPON THE USE OF THE ELASTIC LIGATURE IN THE SURGERY OF THE INTESTINES.

The Chairman's Address, delivered before the Section of Surgery and Anatomy at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY THEO. A. MCGRAW, M.D.,
OF DETROIT.

Gentlemen:—Under the regulations now in force in the American Medical Association, provision is made for two addresses on Surgery, one by a gentleman appointed for the purpose, before the general body of the Association, and the other for delivery before the Surgical Section by its chairman.

It was evidently the design of the Association in adopting this order of exercises, to have the morning address devoted to the general subject of Surgery—its history, its progress, its present condition and its relations to general medicine. The reason of the second address is not so obvious, but it is natural to suppose that, as provision has been made for a general address before the entire Association, it was meant that the one held before the Surgical Section should be more special and technical in character. Indeed, it would hardly seem proper or advisable to consume the time of this body of experienced and learned surgeons, in rehearsing what every one is familiar with, the changes which have taken place in our art during the past year, nor in discussing themes of general interest which have been worn threadbare in the countless meetings of this and other societies. For these reasons, I have on this occasion chosen, for the topic of my address, a subject that is limited in scope, technical in character, and of particular interest only to operating surgeons.

In common with many American surgeons, I have been intensely interested in the surgery of the intestines. It is well known to you all that the impulse which turned the attention of the profession in the United States in this direction was given by the now famous labors of Dr. Senn, the importance of which is to be measured, not alone by the value of the operative measures which he in-

roduced, but also and even more by their influence on the professional mind, not only in America, but all over the world. For his experiments in a field at that time very little cultivated, served to place procedures, which had previously been regarded as odd and experimental, on a sound pathological basis, and we began to perceive a real therapeutical value in operations which most surgeons had regarded as of doubtful propriety. The operation for intestinal anastomosis introduced by Wölfler and practiced to a limited extent by German surgeons, had not, in this country and England at least, become recognized by the profession, until Senn had simplified its methods and demonstrated its usefulness. Since the publication of his papers on that subject, great activity has been manifested by American surgeons both in operating and in improving the technique of the operation. In fact, I fear that some in the profession have become a little weary of the constant recurrence in our periodical literature of papers on modifications of Senn's operation for intestinal anastomosis. I shall nevertheless, at the risk of adding to this weariness, ask your attention to-day to a new operation, which I have devised for this purpose, and which I believe will prove of superlative value, in a limited class of cases. The reasons for endeavoring to modify the established operations will be apparent to every surgeon experienced in this kind of work. The operation for intestinal anastomosis is indicated: 1. Wherever there is a chronic stenosis of the gut, such as we find in cancer of the pylorus, or small or large intestine, or in cicatricial contraction from injury or ulceration, which cannot be otherwise radically cured. 2. Whenever there is acute obstruction that cannot be relieved by any other procedure, such as sometimes occurs in volvulus or in entanglement of the gut with Meckel's diverticulum, or in that kind of obstruction recently described by Prof. Kundrat,¹ of Vienna, in which the duodenum is compressed by the mesentery of the small intestines; and 3. In some cases of gangrenous hernia, false anus and intestinal fistula.

In the vast majority of all these cases, the patient comes to the operation already exhausted, with a vitality so low that even a long continuance of the anæsthesia becomes a source of dan-

¹ Wiener Med. Wochenschrift. No. 8, 1891.

ger. For that reason the operation for intestinal anastomosis is one that demands all possible speed. It may be truly said that its danger is in direct proportion to the time occupied in its performance. The longer the patient is under the anæsthetic the greater the danger from vomiting and exhaustion. The longer the intestines are exposed to the air the greater the danger from shock and the greater the liability to bacterial infection. It becomes important, then, to devise plans of operation which will occupy the very least possible time. Whatever plan may be adopted the rapidity of its execution will depend, of course, largely upon the personal equation of the operator. I have experimented with various methods, and find that the time occupied in making an anastomosis after the intestines have been exposed and brought out on to the abdomen, by the old method of incising the intestines and uniting their cut edges by a double row of sutures, is from twenty-five to thirty minutes, and by Senn's method from fifteen to twenty-five minutes, according to the good fortune of the operator in keeping the many needles and threads from becoming entangled. I believe that these figures will represent pretty accurately the time consumed in the process by the average operator, if he have any experience whatever in this particular kind of work. Operators of exceptional skill might accomplish it in much less time, while those who had not previously qualified themselves by practicing on the lower animals would require a much more generous allowance of time. There can be no doubt that the reduction of this time by ten or fifteen minutes would in many cases make all the difference between life and death—success and failure.

Besides the dangers which result from the time consumed in the operation, there are others which are caused by the operation itself. One of these is the escape of the contents of the intestine into the abdominal cavity, either at the time of operation or afterwards from defects in healing. How serious this danger is the history of operations on the intestines will show. This source of danger is common to all those methods of operating in which the junction of the intestines is preceded by incision into their cavities. Still another danger is that of hæmorrhage from the cut walls of the gut. While this danger is not great if the operator cut in the middle line of the convex border of the intestines, as far away as possible from the mesentery, yet there are cases of unusual vascularity in which the bleeding may be serious, not so much from the difficulty of its control as from the expenditure of time required in accomplishing it. To perfect this operation, then, we must devise some means by which the difficulties and dangers of our present methods may be lessened or avoided.

On considering the matter it seemed to me that

if some method could be invented by which the junction of the intestines could be effected before the formation of the opening of communication between the two coils, two of the especial dangers, viz.: that of hæmorrhage and that of fecal extravasation, might be altogether eliminated, and that possibly the duration of the operation might also be much lessened. My first thought was of a metal clamp with two thin arms connected with a hinge and furnished with a strong spring. The two arms were to be thrust through the opposing intestines and then brought sharply together with the spring. In this way I thought a force could be brought to bear upon the intestinal wall which would gradually cut its way through, while adhesive inflammation was binding the outer surfaces together. I believe, still, that this could be done to advantage, but some practical difficulties in procuring the desired instrument, led me to abandon it temporarily for another and more simple contrivance, which thus far has acted admirably in my hands, and that is the elastic ligature—and this is the theme of my paper to-day, "The use of the elastic ligature in the surgery of the intestines." The value of the elastic ligature in cutting through inclosed tissues has long been known to the profession in connection with the treatment of fistula in ano, of piles, and small polypoid tumors of the rectum and skin. In 1884 Dr. J. McF. Gaston, of Atlanta, Ga., used it and other forms of ligatures in experiments on dogs which had for their purpose the establishment of a fistulous opening between the gall bladder and duodenum. Later still Lücke had used it successfully for the removal of a pedunculated cancer of the liver.

I learned very recently from Professor Dr. Helfenrich, of Greifswald, that some experiments had been made by Dr. Franz Bardenheuer, at present an assistant in Professor von Bergmann's clinic in Berlin, which had for their object the production of intestinal anastomosis by the use of an elastic ligature, and through his great kindness have been enabled to secure a copy of Dr. Bardenheuer's paper from the author himself. The paper is entitled "Experimentelle Beiträge für Abdominal Chirurgie," J. Dietz and Baumsche Druckerei, 1888, and states the results of many experiments similar to my own. His method, however, was materially different from mine, and consisted in connecting the intestines together by three or four rubber ligatures, which were joined together in loops like a chain, each loop containing about $1\frac{1}{2}$ centimetre of tissue. He, also, evidently ignorant of Dr. Gaston's previous experiments, operated once successfully on a dog by the same method, for the production of an anastomosis between the gall bladder and duodenum. These experiments of Dr. Bardenheuer do not seem, thus far, to have borne any practical fruit. Without knowing of any previous ex-

periments with the elastic ligature, I began myself to experiment with it during the early part of the summer of 1890, hoping in this way to find a means of accomplishing the desired end of producing an anastomosis with previous adhesion of the intestinal surfaces. In my experiments, I tried three kinds of ligatures. One, a large, round rubber cord 4 millimetres in diameter, was speedily discarded. It was too large, was clumsy to tie; when tied it took up too much room and tore too big a hole through the intestinal wall. A second consisted of a flat rubber band 3 millimetres in width. This proved to be serviceable and can be advantageously used if the third variety cannot be obtained. The third kind, a rubber cord 2 millimetres in diameter, is that ordinarily used for the ligature of piles. It could not, for some reason, be obtained for my first experiments, but is to be preferred to all others on account of its smoothness, elasticity and great tenacity. By shaving the end of the rubber thin it may be drawn through the eye of a so-called worsted needle (a needle with a long eye) smaller than itself. This is a decided advantage for the reason that it is important to make as small a hole as possible through the intestinal wall, and also to have the ligature not only completely fill, but even to distend the hole so as to prevent any extravasation of feculent fluid. Now, by stretching the rubber during its passage and rendering it thin and small, it may easily be drawn after the needle, and its subsequent contraction will then largely increase its size and cause it to more than fill the orifice. The ligature in the most cases was passed through the gut in the direction of its long axis and at points most distant from the mesenteric attachment. Before passing it the bowels were stitched together by from three to six Lembert stitches, and afterwards similar stitches above the ligature served not only to give additional protection but also to bury the rubber in the intestinal folds. Usually an inch or more in length was included in the ligature. After the cord had been drawn through both coils of intestine it was tied as tightly as possible in a square knot. Although this knot will ordinarily hold without further fastening, yet as I wished to cut the ends very short in order to cause as little peritoneal irritation as possible, I always secured the ends so as to make slipping impossible. At first I did this by running a fine needle threaded with silk through the ends and thus tying them together, but as this procedure was awkward and consumed much time, I later on adopted a suggestion of my student, Mr. Hickey, and secured the knot by tying a silk thread, which was laid under it, first over the first turn of the knot and afterwards over the completed knot. This consumed almost no time and fastened the rubber securely against the possibility of accident. In making the knot, the

ligature should be drawn as tightly as possible without breaking.

The first effect of the ligature was to draw the intestines together into folds, and I was not a little apprehensive at first, lest these folds, agglutinated together, might be fixed in a permanent corrugation. In this I was agreeably disappointed. Examination of the intestines, even after so short a time as twenty-four hours, and before the ligature had made any perceptible progress in cutting through, would find these folds in process of obliteration. In some way the intestine accommodated itself to its new conditions and became speedily smooth and shapely. In some respects the early disappearance of these corrugations has been quite a puzzle, as I should have expected them to remain until the intestine was released from the binding cord. I feared, too, lest the ligation and folding of the intestinal wall might cause irritation or even obstruction of the gut. When we consider, indeed, the severity of the symptoms produced by the pinching of even a small segment of a gut in strangulated hernia, we might reasonably expect the occurrence of similar phenomena, with the extreme pinching of two adjacent intestines held together by a tightly drawn rubber ligature. This, however, never happened. Obstruction occurred in one or two cases from a too acute bending of an intestine, but the ligation itself seemed in no case to produce distress—even in gastro-enterostomy, where the involvement of the stomach in the ligature might warrant fears of an uncontrollable gastric irritability, this did not occur. The man upon whom I operated by forming a gastro-intestinal enterostomy for the relief of a pyloric cancer, vomited only once after the operation, namely, on the third day.

It is evident that the mere pinching or constriction of a portion of the intestinal wall is not in itself a cause of great irritation, provided the nutrition of the gut is not seriously interfered with. In fact, the symptoms which followed the operation seemed in no case to depend merely upon the injury done to the intestine. If the wound ran a perfectly aseptic course, the animals would show no distress whatever. If it became septic they would suffer accordingly. Every one who has operated on dogs, knows the difficulty of making and keeping them aseptic, especially in confined quarters. From lack of proper facilities I lost several animals from septic peritonitis. It was noteworthy, that the origin of trouble was rarely to be found at the seat of ligature or connecting with the cavity of the intestine, for the ligature, in fatal cases, was almost always found buried in the intestinal fold and progressing its usual course, while the distant peritoneal surfaces were covered with lymph or pus. In no case was there found any escape of feces or intestinal contents into the peritoneal cavity.

The normal course of the ligature and inclosed tissues, was about as follows:

Animal killed after twenty-four hours, showed no change in the condition of the intestines operated on, except a partial obliteration of the folds caused by the ligature, and an adhesion of the adjacent peritoneal surfaces. No opening became as yet apparent at the seat of ligation. After forty-eight hours the intestines resumed their normal shape, all folds had disappeared, the adhesions had become firmer, and the rubber was seen to have slightly cut through the inclosed structures. At the end of seventy-two hours a free space usually appeared on each side of the ligature, through which water could be made to pass from one intestine into the other. The ligature still hung in the middle on uncut tissue. At the end of the fourth day, the opening became complete, the ligature disappeared and the anastomosis was accomplished. As the ligature cut through, the edges of the mucous membranes of each gut became glued together and united, and the result was a smoothed, healed edge all around the opening. The irritation caused by a rubber ligature in the peritoneum was just sufficient to cause adhesion of the surfaces with the intervention of hardly any appreciable amount of exudation. The length of the orifice formed was found to be equal to that of the tissue inclosed in the knot. Whether subsequent contraction with partial obliteration of the orifice, such as has happened after other methods of producing anastomosis would follow in course of time, is as yet uncertain. Variations were occasionally found in the course described. I have seen the opening completed at the end of the third day, and have seen it incomplete at the end of the fifth, but in general if the operation is done as I have described it, the result will be as I have stated.

In my first series of experiments I operated on twenty-four dogs, and then having become convinced of the perfect feasibility of the operation I chose it in preference to other methods, when called upon to establish an anastomosis between the stomach and small intestine, in a case of pyloric cancer.

Subsequently, seven dogs were operated on for the purpose of studying the effects of the operation in relieving intestinal fistulæ and false anus, and eight others, for the production of fistulæ between the gall bladder and small intestine. The history of the only case in which this method of operation has been thus far employed on the human subject is as follows:

Mr. Otto Cook, aged 59 years, a Belgian by birth, and a farmer by occupation, by the advice of his physician, Dr. Jno. Monaghan, since deceased, entered St. Mary's Hospital on January 8, 1891, to place himself under my care for cancer of the pylorus. He had been perfectly

well until three years ago, when he had begun to suffer from indigestion and occasional attacks of vomiting. The trouble gradually increased until he found himself during the last three months unable to retain any food whatsoever. He became gradually very weak, and at the time he entered the hospital was much emaciated. His breath was foul, and his food was vomited regularly a few hours after its ingestion. Examination revealed a tumor as large as a hen's egg, four centimeters above and four centimeters to the right of the navel. This tumor was immovable, and was evidently adherent to the adjacent structures.

January 9. The stomach was washed out with warm water and a large quantity of very sour, dark and offensive fluid mixed with mucus evacuated. After the hot water, a solution of boracic acid and bicarbonate of soda, eight grains of each to the ounce was injected and again evacuated. The patient experienced immediate relief from the nausea, and the procedure was repeated daily until January 12, the day of operation. As the diagnosis was not doubtful, the examination for hydrochloric acid was not made. The temperature during the time of his stay in the hospital previous to the operation ranged high, from 99.5° to 100.5° F. His pulse was steady at about 90 per minute. His bowels had been costive but were made to act by enemata, and rectal injections of bovine and brandy were given three times a day, to supply the much needed nutriment.

There were present at the operation Drs. H. O. Walker, F. W. Robbins, Pilcher, Irving, Monaghan and Mr. P. M. Hickey, Mr. A. J. Warren, and others. An incision was begun four centimeters above the navel, in the median line, and extended transversely to the left, for a distance of four inches. The pylorus was found to be as expected, the seat of a large tumor, adherent to the liver and absolutely immovable. Excision was out of the question and I proceeded to make an anastomosis with the small intestine. I tried first to find the jejunum by grasping it at its origin but failed to do so, and then followed Lücke's advice and grasped the highest coil of small intestine. As will appear later I had cause to regret this part of the operation. The omentum was very thin, atrophied and destitute of fat, and was pushed to the left. A small opening through its right border enabled me to bring the stomach into contact with the intestine, which was then sewed fast to it by six Lembert sutures in a line about four centimeters in length. A long worsted needle, armed with a long rubber cord, was then passed into and out of the stomach, the included space being about three and a half centimeters in length. It was then carried in like manner through the intestine and the ligature tied tightly and firmly in a square knot. The ends of the ligature, which were cut short, were

then secured by tying them together with a silk thread, which had been passed through them, and six Lembert sutures were inserted above. The stomach and intestine were thus fastened together by two rows of Lembert sutures, and by the rubber ligature which was between them and hidden from view, while the walls of the viscera were held by the ligature as in an ever tightening vise. The operation of anastomosis was conducted in this case very deliberately, and consumed after the exposure of the stomach eleven minutes of time. The most of this was occupied in passing the fine needle armed with the silk thread through the rubber in order to secure its ends. This is quite a delicate matter as the needle must be passed directly through the middle of the stretched rubber in order not to cut and weaken it as it would do if passed too near its edge. Since adopting the suggestion of Mr. Hickey, and securing the knot by tying the silk thread firmly around it, I have been able to materially reduce the time required for the procedure, and can now do it on the dog in less than three minutes.

The peritoneum, fascia and muscles, and skin were sutured separately, and the wound dressed with usual regard for asepsis. The patient reacted well and was given injections of bovine and brandy every six hours.

January 13. Injections continued. Temperature as before the operation ranging from 99.5 F. to 100.5 F. Pulse was stronger than before the operation. Patient had a tendency to slight hacking cough, no nausea, nor vomiting, nothing was given by the mouth.

January 14th. No pain, tenderness, nausea nor tympanites. Injections of bovine, brandy and tincture opii every four hours, mouth and tongue moistened with water, but no food nor drink. Morning temperature 100.5; evening temperature 103.8. Ten grains of quinine in half an ounce of whiskey were given by mouth and retained.

January 15th. Morning temperature 101°; evening temperature 100°; pulse 90 and good but patient felt very weak. The mouth and throat were dry and the cough troublesome. No expectoration, negative results on auscultation and percussion, complained of acidity. Is given teaspoonful doses of wine and water every fifteen minutes. For the first and only time since the operation, the patient vomited a mucus mixed with wine and water; the stomach was washed out with the boracic acid solution.

January 16th. Morning temperature 100°; evening temperature 101°. Patient retained milk, bovine and wine in small quantities. Bowels moved at noon. The stool was thin, dark colored, and offensive. Ligature could not be found, and wound was dressed for the first time and found to have healed by first intention. Bowels

moved three times on the night of January 16 and January 17. Nutrient enemata altogether discontinued; patient is weak and very homesick, and complains bitterly of his cough. Bismuth and saccharated pepsin aa grs. v was given every three hours. Morning temperature 99.5°; evening temperature 100°.

January 17th. Patient seems brighter and stronger. Pulse 90, good. Morning temperature 99°; evening temperature 100°. Milk, beef-tea and brandy are taken by the mouth and retained; no nausea nor distress. Cough is troublesome; bowels moved five times during the day; stitches were removed from wound which was entirely healed. The pyloric lump seems to have decreased in size.

January 18. Morning temperature 99°; evening temperature 100.5. The cough is very annoying, but sounds are clear over both lungs. The cough is aggravated by drinking, but not by swallowing solids. He ate baked potatoes and soft boiled egg for breakfast, also some milk toast, but is dejected and homesick. Bowels moved six times since previous evening. The passages were dark and offensive.

January 19th. Morning temperature 99°; evening temperature 100°; cough much worse, but no expectoration. Mouth and throat are very dry. The throat is red but not swollen, and is covered with a white deposit, which, however, may be easily wiped off. Has difficulty in swallowing liquids but can take solids with ease. Throat was gargled with boracic acid solution. Internally, tincture ferri chlorid, in five drop doses. Bowels have moved seven times since last evening.

January 20th. Morning and evening temperature 100°. Patient is growing weaker and more homesick. Pulse 90, good; mouth is not quite so dry and throat is somewhat better. The pyloric tumor has apparently disappeared. Diarrhea continues. Twelve passages in the last twenty-four hours.

January 21st. No material change.

January 22d. Diarrhea continues and patient is growing weaker, but otherwise no marked change.

January 25. The patient insisted on going to his home twelve miles in the country, where he died on January 27, fifteen days after the operation.

On January 28th, I drove out with an assistant and succeeded in getting permission to examine the abdomen. It was found that the healing had taken place with absolute asepsis, the wound was firmly and completely united. There was no inflammatory exudate whatever in the abdominal cavity. The viscera all had their normal appearance except at the seat of disease. There was a pyloric tumor as large as a hen's egg firmly adherent to the under surface of the liver. In the mesen-

tery underneath there were numerous enlarged lymphatic glands. The stomach and underlying intestines were adherent by what may be called primary adhesion; that is, their surfaces were attached without any apparent deposit of lymph. I had feared on watching the case that I might have made the anastomosis too near the ileo-cæcal valve and in order to determine the exact position of the operation, I was obliged to separate the stomach from the surrounding mass. I found that the seat of anastomosis in the small intestine was about 91 centimeters (three feet) from the colon. The intestine above that point was empty; below it full of partly digested food. The cause of death was evidently inanition. In tracing out the intestine I unfortunately tore it partially apart from the stomach and thus spoiled the specimen. I found, however, that the anastomosis had been complete. In the stomach there were two holes through the mucous membrane and one through the muscular and serous coats. It was evident that in passing the needle into the stomach I had passed it too near the wall of that organ, and instead of clearing the mucous coat had pierced it, altogether, in four places, which made, on the completion of the anastomosis, two holes. This seemed to cause no difficulty in the passage of food but it taught me to enter the needle, in the future, into and to pass it out of the stomach more perpendicularly to the surface. In this way all such complications may be avoided. The orifices in the intestine and serous and muscular coats of the stomach were three and a half centimeters, (one and a half inches) long. That in the mucous coat of the stomach was as I have said divided in two by a small bridge of mucous membrane. It must be observed that neither in the stomach nor intestine nor peritoneal cavity was there the slightest appearance of inflammation. The edges of the opening between the cavities were healed and the mucous membrane of the small intestine was turned around the edge of the orifice and attached. The mucous membrane of the stomach, owing to the faulty course of the needle through it was stretched over the orifice and communicated with it by means of the two openings.

Although in transcribing this history I have not taken up space in relating unnecessary details of treatment, having given only the essential points, enough is nevertheless given to show conclusively that it is entirely practicable to produce intestinal anastomosis on the human subject by the elastic ligature. The failure of the operation was due, not to the method of making the anastomosis, which was highly successful, but to the misfortune of establishing it too low down in the ilium for the purposes of nutrition.

I wish to call especial attention to the following points:

1. The operation caused no irritability of the

stomach. He vomited only once after its performance, viz., on the third day after the operation, before the ligature had cut through.

2. The duration of that part of the operation, the uniting of the viscera and the formation of the anastomosis, was only eleven minutes, notwithstanding that it was done with more than necessary deliberation on account of its being the first case. It was, besides, unnecessarily prolonged by the method then adopted of fastening the ends of the ligature by transfixing them with needle and thread and then ligating. The method now adopted of securing the knot by simply tying a silk thread around it, will save many minutes.

3. Food began to pass from the stomach into the intestines at the end of the fourth day as shown by the complete tolerance of the stomach after that time. The accident of transfixing the mucous membrane of the stomach by carrying the needle too nearly parallel to its surface, made the orifice in that mucous membrane smaller than it should have been and may have delayed the establishment of the communication between the stomach and intestine.

4. The autopsy showed the anastomosis to have been completed with a minimum amount of irritation. I doubt whether it would be possible by any other method to produce so little disturbance.

Now, if we ask how far this method will meet the necessities caused by the various pathological conditions which produce intestinal stenosis, we will be enabled to come to a definite conclusion as regards its usefulness. It will be seen on consideration that like all surgical procedures, the method has its strict limitations. That which limits its applicability is the time which is required for the completion of the anastomosis. All cases of stenosis, therefore, which demand immediate relief or which must be relieved in less time than four days, must be treated by other methods, while on the contrary all cases of partial stenosis or even, as regards pyloric tumors and cancers, of complete stenosis in comparatively strong patients, may be operated on to advantage by this method. To particularize: the acute stenosis of volvulus or entanglement of Meckel's diverticulum with the intestine, or that caused by constriction by false membranes or by strangulated hernia or by intussusception, must be relieved by other means. In many of these cases an incision into the bowel which permits the escape of contained feces is a necessary part of the treatment and for all these, Senn's method or some one of its innumerable modifications would seem indicated. But in obstruction of the pylorus, when the patient has a fair amount of strength; in tumors of either intestine with partial obstruction; in the partial stenosis caused by wounds and injuries, in the narrowing of the gut by cicatricial contraction; in operations for the cure of false

anus and faecal fistulae, and, finally, in impending mortification of the intestine in strangulated hernia, I believe that it will be found on trial superior in its ease of application, freedom from danger and efficiency, to any other method now in vogue. In tumors either of intestines or of neighboring parts pressing upon or involving the intestine, the symptoms of obstruction come on gradually. In all of these cases, early operations are indicated either for excision of the whole trouble, or if that is impossible for relief of the stenosis. In either case the production of anastomosis by ligature is especially indicated—in excision, after the tumor has been removed, the gut evacuated and the resected ends turned in.

Wounds of the large intestine are much more apt than those of the small, to give way and permit faecal extravasation. The thickness and comparative stiffness of its walls make a greater strain upon the Lembert stitches which hold the serous surfaces in contact, while the faecal masses, by their greater solidity, produce more friction in the bowel and a more prolonged and powerful impact upon the inner line of the wound. In the large intestine then it is especially desirable that the outer surfaces should grow together before the anastomosis is formed, and for that reason the operation by elastic ligature would seem to offer marked advantages over other methods. The lapse of four days before faecal matter could possibly exude, and during which the agglutination of the serous surfaces would become firm, would add no little to the security of the patient.

The advantage of the method in another class of cases, that of traumatic stricture of the small intestine, has forced itself upon my attention as I have compared the results of my operations on dogs with the history of a case of resection of the gut for traumatic stricture which occurred in my own practice. The case has already been published in the *Physician and Surgeon* for June and July, 1890, and I will give here only a résumé of it in illustration of the advantages promised over the old methods by the new one which I have suggested. On January 13, 1889, Barnard Burns, age 28 years, was struck violently in the abdomen by a falling log. Great pain, tenderness and tympanites ensued and lasted for three or four weeks. There then developed, gradually, a cicatricial contraction of the jejunum with its accompanying symptoms of partial obstruction, namely repeated attacks of great colicky pain with irritability of the stomach, and finally faecal vomiting. I operated on him on May 30, 1889, four and one-half months after the reception of the injury. I found the jejunum at one place contracted to such a degree that a lead pencil could not have been passed through it. The intestine had evidently been badly bruised, but not completely ruptured. Possibly one or the other of its coats had undergone ulceration

and absorption as the effect of the injury. I excised three inches of the bowel and joined the ends together with a double row of stitches, one for the mucous membrane and one for the muscular and serous coats. A contracted point in the mesentery which seemed to cause too much flexion of the intestine was also excised and reunited in a different way so as to relieve the flexion. The operation lasted one hour and a half, two-thirds of which time were occupied in the section and suture of the intestine. At its close he suffered greatly from shock, from which he did not recover until after the expiration of thirty-six hours. After that, he recovered without any further drawback.

What I wish to emphasize in this history is the fact that this patient was put in imminent danger of his life by the shock produced solely by the length and severity of the operation although everything else went well. In treating such a case again, I should first of all thoroughly and repeatedly wash out the stomach. This procedure has been shown, repeatedly, to relieve all of the symptoms of even acute and complete obstruction without, of course, curing the disease. The stomach and small intestine are thereby put in the same condition as the stomach in pyloric obstruction. The canal to the point of obstruction is emptied of all its contents, and the pain and intestinal tenesmus ceases as soon as the gut is allowed to rest. The reversed peristaltic action in these cases assists the surgeon in his efforts to relieve the intestine from the exhausting and futile efforts to force its contents beyond the point of constriction. Whether the small intestine could be thus relieved at whatever point in its length it should be constricted is yet to be seen. It is of undoubted service in constriction of the higher parts of the alimentary canal. In partial obstruction the relief given would doubtless be sufficiently great to permit the surgeon to treat the case on the same principles as in pyloric cancer, namely, to keep the mucous surfaces clean by frequent irrigation; to give by the mouth no food or drink at all or, if any, only such as could undergo immediate absorption; to nourish the patient by rectal enemata, and to reestablish the continuity of the bowel by forming an anastomosis of the part above with that below the stricture.

If I had, instead of excising the gut, passed an elastic ligature through the central and distal portions, immediately above and below the constriction, I could have accomplished in a few minutes what occupied a whole hour, and saved the patient the enormous shock to which he nearly succumbed.

Although I have not ventured to recommend this procedure in cases of acute and complete obstruction, I am nevertheless by no means sure that it may not prove to be the best and most promising of all operations in acute and irremedi-

able obstructions of the jejunum and duodenum if the case is operated on early, before the patient has become exhausted. It must be insisted on that all such cases shall be treated, before and after the operation, by the frequent washing out of the stomach with the rubber syphon, and that alimentation shall be accomplished solely through the rectum.

Another class of cases in which this operation may be expected to be of great utility is that which includes gangrenous hernia, faecal fistula, and artificial anus. It occurred to me in thinking over the various methods of treating the mortified intestine in strangulated hernia that the cure of the false anus which results in such cases might be anticipated by making at once an anastomosis between the afferent and efferent limb of the gut in sound tissue. By passing the elastic ligature through the two portions of gut an orifice of communication would be formed at the end of the fourth day, and with a new channel for the passage of faeces. The false anus would be in condition to be healed with comparatively simple means.

I operated on my second series of dogs, seven in number, with the purpose in view of studying the results of such procedures. The experiments had as yet yielded no practical results on account of the great mortality of the animals from septic peritonitis, when I received the second part of the forty-first volume of the *Archives für Klinische Chirurgie*, containing an article by Prof. Helferich, of Griefswald, entitled "Aussführung der Herniotomie bei der Gangrän verdächtigen Darm," I found myself anticipated in the idea and practice by Prof. Helferich, who had already operated on and recorded two cases of this kind, in which, however, he had made the anastomosis by incising and stitching the intestines together. One of the two cases was successful. Some faeces passed for a few days, in small quantities, through the false anus, although the greater part was evacuated through the rectum. On the ninth day the protruding perforated coil of intestine was excised, and the cut ends turned in and sutured. A small remaining fistula required a further and final operation for its relief. The second case ended fatally in collapse.

I think that every one who considers for a moment the condition of things in a gangrenous hernia will see the advantage of this operation. I should not, however, subject a patient to the long, tedious, and dangerous operation of forming an anastomosis after any of the old methods. In these cases, when once the constriction of the hernia is relieved, the operation by elastic ligature could be accomplished within five minutes. It would indeed require four days to establish the communication between the intestines, but the patient could well afford to wait for that when by so doing he could escape the dangers of collapse

and shock, to be expected of any long operative procedure under such circumstances.

As for already existing faecal fistula and false anus, in which milder measures have failed, it would be proper to try the effects of the elastic ligature in either one of the two ways: First of all the ligature might be used to destroy the projecting spur, which in so many cases of artificial anus separates the afferent from the efferent gut. The patient should be put in Trendelenburg's posture, with elevated hips, to permit the intestines to fall away from the seat of operation. The needle armed with the rubber ligature should then be passed as deeply as possible through the spur and tightly tied. The spur destroyed, the case could then be treated on general principles. If the formation of the spur should be such as to render this maneuver impossible, or if the case were one in which no spur existed, the abdomen could be opened and an anastomosis be formed by the ligature between the afferent and efferent limbs of the gut. There can be no doubt that relief might be given in this way to many otherwise incurable troubles of this kind. Besides these operations on the intestine, I made some experiments with the view of making communications in the same manner between the gall-bladder and the small intestine. In doing so I met with difficulties which did not occur in the operations on the intestines. The liver and gall-bladder in dogs, owing to the narrowness of the thorax, is somewhat difficult of access, and the constant, and often violent, motion of the diaphragm as the animal struggles, vomits, or barks, prevents that delicate manipulation which is essential to success. These impediments might, it is true, be overcome by a sufficiently large abdominal incision, but this in turn causes greater danger from shock and septic poisoning. The operations were conducted in the same manner as in intestinal anastomosis, except that the lesser size of the gall bladder made it necessary to include less tissue in the ligature. Whereas in the intestinal anastomosis the thread inclosed from three to four centimeters in length; in the experiments on the gall-bladder and duodenum there were included only one and a half or two centimeters of surface.

Another difference in these operations was the tendency of the bile to escape alongside of the ligature into the peritoneal cavity, an accident which never happened with the contents of the intestine. This was due both to the thinness of the wall of the gall-bladder and the thinness of the bile, and added an additional danger to these operations. Nine dogs were operated on, of which six died. One from intestinal hæmorrhage, one from a flexion of the duodenum, two immediately after the operation, apparently from shock, and two from septic peritonitis. Of the three that lived, one lived sixteen, one fourteen, and one

twelve days before they were killed for examination, and I hoped to prove the operation to be practicable. In this, however, I was sadly disappointed. In two of the three the ligature had disappeared, but the orifice of communication had disappeared with it, and there was nothing left to mark the spot of operation but the scar. In the third the ligature was found in place. It had cut through the intervening tissues, but had been prevented from escaping by the surrounding structures, which had contracted around it and enclosed it. It could not be doubtful that this orifice, too, would have closed like the others by cicatricial contraction as soon as it had been made possible by the escape of the rubber.

I had not, until this time, been aware that Dr. Gaston, of Atlanta, had anticipated me in this kind of work, but learned of the fact from Dr. Senn. Dr. Gaston kindly sent me the papers, excepting the first, which he had published on this subject, beginning in September, 1884. Dr. Gaston endeavored to establish fistulae between the gall-bladder and duodenum by the use of a ligature, sometimes of silk and sometimes of rubber. The main features of his method were the same as those of my own. The gall bladder was fastened by Lembert sutures to the intestine, the ligature passed through both viscera and tied, and other Lembert sutures again above and around the ligature. Many of his operations were complicated by the ligation of either the hepatic, cystic or common gall ducts, and in all of them, as nearly as I can judge from the description given, the amount of tissue included in the ligatures was much less than in my own experiments. His very interesting experiments were the first of their kind, and he can undoubtedly claim the priority in the attempts to make channels of communication between hollow viscera by means of ligatures, although I cannot learn that he ever attempted to do so for any other purpose than to make a duodeno-cholecystostomy.

I wish that I could say that either his efforts or my own, had resulted in the establishment of a practicable procedure for this purpose. The results of our experiments in this direction at present, show only this: that it is possible by the use of a ligature to make a communication between the gall-bladder and duodenum which may last for two or three months, but that the procedure is so exceedingly dangerous as to be inadvisable on the human subject. The most of the animals operated on, died, and from causes which we might not be able with all care to avoid. It is exceedingly difficult to prevent the escape of bile into the peritoneal cavity through the hole made by the ligature, and this, although not necessarily fatal, is nevertheless a grave complication, if for no other reason than that it interferes greatly with that union by first intention,

which is an essential element of success in this method. Besides, the adhesion of the surfaces, the escape from all fatal complications, and the division of the inclosed structures by the ligature does not insure the establishment of the fistula. In the three cases of my own which lived, the ligature had cut through, but the contraction of the tissues had already, in less than seventeen days, obliterated the orifice, which it had made, although not less than one and a half centimetres of length of surface had in each case been included in the ligature. It is possible that the total obstruction of the cystic or common duct might ensure a greater permanency of such a fistula. In one of Dr. Gaston's cases, the fistula persisted for nearly three months, but it must not be forgotten that the obstruction of the common duct would add greatly to the danger of the operation, as it would cause an enormous distension of the gall-bladder with extreme thinning of its walls, and a constant pressure, which would cause a continuous current of bile through the holes made by the needle and thread, and, if it did not produce a fatal peritonitis, would almost inevitably prevent union between the gall-bladder and duodenum.

I would not be understood as despairing altogether of this method for the formation of a fistula between the gall-bladder and duodenum, although the method of incision and suture seems to me to be safer, but I cannot regard it yet as a justifiable operation, whatever may be its future after further experimental study. In one respect I should differ from Dr. Gaston. The pathological conditions, which would make duodeno-cholecystostomy proper, are such as are constantly recurrent. For that reason, indeed, Langenbuch recommended the excision of the gall bladder, in order to prevent the formation of gall stones, and render the cure permanent. It should therefore be the aim of the surgeon to make any fistula that he might establish enduring. This can only be hoped for if the opening between the viscera is originally very large; even then it is probable that the tendency to contraction in so loose a structure as the gall-bladder would be greater than the tendency to keep the communication open. When, therefore, Dr. Gaston says, commenting on one of his cases: "Upon stitching up the duodenum to the point of opening, it was evident that too much tissue had been included in the ligature, as the orifice was unnecessarily large; and in repeating this experiment I would suggest that the needle and ligature should only include so much of the respective wall as to secure an orifice from the cavity of the gall bladder into the alimentary canal," he would seem to me to be urging a practice which would defeat its own ends. While it is not impossible that a small fistula would remain indefinitely open, to make that event even

slightly probable, the orifice should be made as large as possible.

It is not only in fistulas of the gall-bladder that this tendency to contract has been remarked, but also in those of the stomach and small intestine. In one case an opening of three centimeters in diameter between the stomach and small intestines had contracted in five months and a half to less than half a centimeter, and in another case an orifice an inch long, had altogether closed in four months (Weir).

It becomes important, therefore, to study the conditions which favor, and those which oppose this undesired process of healing. It can hardly be doubted that a large opening would be less likely to close than a small one, and large orifices may be made by all methods, by that of the ligature as well as by others. There are probably other circumstances, however, which also influence the result. One of these must be the greater or less perfection with which the mucous coats are united, for if in any case union takes place between the outer surfaces while the mucous membranes are left unattached, a line of granulating tissue would occupy the inner edge of the orifice which might be expected to subsequently indefinitely contract, whereas an opening lined by a continuous layer of mucous membrane would tend to retain its shape and size; so, too, any great inflammatory deposit on the outer surface would tend to produce the same result of contraction and obliteration of the orifice.

It is not then a matter of indifference, by what means the communication is completed. Experience alone can determine the value of the different methods in this respect, but after careful study of pathological specimens from my own cases, I feel hopeful that my method will prove of especial value in making permanent openings between the viscera, for I have noticed first of all, that during the process of absorption from the pressure of the cord the mucous membranes are forced in on both sides until they meet, so that the ligature leaves behind it a smooth edge covered with the inner lining, and second the irritation of the serous membranes by the ligature is just sufficient and no more than to cause adhesion. In some of my experiments I used silk ligatures instead of rubber and found that they too would cut through the tissues and leave an opening. In many ways, however, they were inferior. They would soon lose their antiseptic qualities, act as setons and cause too much inflammation. There were therefore more failures, and owing to the too great deposit of lymph the intestines were apt to remain puckered up with a small contracting opening, instead of a large one. The rubber, on the contrary, causes barely enough irritation to cause union of the serous surfaces.

In conclusion, then, I will sum up the matter as follows :

1. Rubber ligatures can be used advantageously in many cases to produce anastomosis between two hollow viscera.

2. They are adapted for all chronic cases, in which it is possible to wait four days for the completion of the opening.

3. They are contraindicated in all cases of acute obstruction which demand immediate relief.

4. In using them for this purpose they should be passed through the opposing viscera in such a way as to include all of the intervening tissues, serous and muscular coats and mucous membranes in one tight knot.

5. Union takes place between the serous surfaces after the application of the ligature by primary adhesion with a minimum amount of irritation.

6. The method of thus producing an intestinal anastomosis excels all others in the rapidity of its execution and in its freedom from danger of shock, fecal extravasation and septic poisoning. Its sole drawback is the length of time required for its completion. I shall be glad if the profession will give it a trial in appropriate cases.

I take pleasure in acknowledging my indebtedness to Drs. Ives and Ireland and Messrs. Hickey and Warren for their assistance in making the necessary experiments.¹

ORIGINAL ARTICLES.

FRACTURE OF THE ASTRAGALUS, WITH IRREDUCIBLE DISPLACEMENT OF THE FRAGMENT.

A Paper read before the Fourth Annual Meeting of the National Association of Railway Surgeons, held at Buffalo, New York, April 30, and May 1 and 2, 1891.

BY R. HARVEY REED, M.D.,
(UNIVERSITY PA.), MANSFIELD, OHIO.

PRESIDENT NATIONAL OHIO MEDICAL SOCIETY; SURGEON BALTIMORE & OHIO R. R.; MEMBER NATIONAL ASSOCIATION OF RAILWAY SURGEONS; AMERICAN MEDICAL ASSOCIATION; BRITISH MEDICAL ASSOCIATION; AMERICAN PUBLIC HEALTH ASSOCIATION; HONORARY MEMBER D. HAYES AGNEW SURGICAL SOCIETY, PHILADELPHIA; TEXAS STATE MEDICAL SOCIETY, ETC.

Fractures of the astragalus as compared in frequency with fractures of the other tarsal bones, are comparatively rare; whilst fractures of this bone with irreducible displacement is still more uncommon.

This bone being largely composed of cancellated tissue, and quite irregular in form, and surrounded with numerous articulations, affords it a greater immunity from injury, than almost any other one of the tarsal bones.

In fact, little is said in our text-books regarding this important complication, which to the railroad surgeon is of double importance, owing to the permanent injury it produces, and the con-

¹ The rubber ligatures can be procured of Milburn & Williamson, Detroit, Mich.

sequent dangers this form of injury is liable to entail on the railroad company.

Hamilton, in his work on "Fractures and Dislocations," reports ten cases of fracture of the astragalus, nine of which were caused by a fall, and one by crushing. In the former the force was largely reflected to the foot, and conducted to the astragalus through the tibia, causing the fractures, some of which were followed by displacement of the fragments.

Ashhurst says it is almost invariably broken, by the patient falling from a height and alighting on his feet; and that he only knew of two cases, where there had been a fracture of this bone, with displacement of the fragment; the one was a case reported by himself, the other by Dr. Norris.

Agnew, in referring to fractures of the tarsus, reports seven fractures of the astragalus; 14 of the calcaneum, and 25 of the other bones of the tarsus; which shows that fractures of the astragalus only occur in 15 per cent. of all the fractures of the various bones of the tarsus.

Longsdale, Croly, Neill, Bryant, Vollmar, MacCormac, M. Tavignot, Malgaigne, M. Rognetta, Sir Astley Cooper, Clark, Norris, Goyder and John Ashhurst, Jr., each report a case of fracture of this bone; whilst Sheppard reports having observed four fractures of the astragalus, and Mr. Erichsen two.

The testimony of these surgeons, proves that it is usually caused by falling, in which the patient alights on some solid substance on the feet, whereby the force of the fall is extended to the astragalus which may cause a simple fracture, with or without dislocation of the fragment, or a comminuted fracture with or without displacement of the fragments, or a compound comminuted fracture, with or without displacement of the fragment or fragments. The fragment or fragments may be dislocated anteriorly on the dorsum of the foot, or downward and forward, or downward, outward and backward under the internal malleolus; and one case is reported, in which the displaced fragment found its way to the plantar surface of the foot.

There is no certainty as to the direction of the line of fracture, which is as varied as the force or forces that produce it.

The reduction of these displaced fragments is quite a difficult task, which is usually attended with absolute failure, especially when they are displaced downward and backward under either of the malleoli, and whilst Dr. Ashhurst reports in the *American Journal of Medical Sciences*, for April, 1862, of having been able to replace a dislocated fragment of a fractured astragalus, yet I believe he is the only surgeon who has been able to do so (and has reported the case), to the best of my knowledge at least.

The anatomical relations of the astragalus are

such, that when displacement of a fragment after a fracture occurs, it makes it evident at a glance, that its reduction will be attended with great difficulty; especially when we consider its shape and structure, together with the numerous ligaments and articular surfaces it presents; yet, notwithstanding all this, I consider it good surgery to make an honest and carefully conducted effort at reduction by trying to so manipulate the parts as to give the least possible resistance to its return; the particular manipulation of which, will depend largely upon what part of the bone is fractured and displaced, and where it is lodged. Operative interference for the removal or reduction of the bone, especially after prolonged and diligent efforts had failed to replace it, would very naturally present itself to our minds next. In this connection, we can find but little data to guide us; whilst Bryant and Wythe operated and removed the displaced fragment with recovery, yet, on the other hand, a similar case operated by Dr. Norris, died. These, in the absence of additional reports, would show a mortality of 33 per cent. against 66 per cent. of recovery, and at a time when at least two of these cases (Norris' and Bryants') were undoubtedly operated prior to the use of antiseptics, and whilst we have no assurance that Wythe's was, although it is more probable than either of the other cases.

Some operators advise the replacement of the dislodged fragment, others, the removal of the entire astragalus (which was done in Wythe's case), whilst others only advise the removal of the displaced fragment. But when we consider the structure of the bone, which is made up largely of cancellated tissue, and consequently more vascular, and hence the remaining portion of the bone is more liable to take on destructive inflammation on the one hand, whilst the replaced fragment is liable to become necrosed on the other, owing to the interference with the blood supply, as well as the danger of the introduction of septic germs, which makes the question of replacement by operative interference a doubtful procedure.

Again, if the displaced fragment is allowed to remain out of place, it not only makes a permanent deformity, but a permanent disability; but on the other hand, if you attempt to remove only the fragment, you take the chances of disease of the remaining portion of the bone following, and if you remove the entire bone there is more or less permanent deformity and disability from that. From this it would seem as though this injury produced a fair example of the old adage of:

"Damned if you do, and damned if you don't.
Damned if you will, and damned if you won't."

From this it would appear that we are left to the choice of four or five evils: 1. If the fragment can't be reduced by manipulation (except-

ing in compound or compound comminuted fractures) to simply let it alone, and take the chances of it becoming encysted.

2. To remove only the displaced fragment, by cutting down on it, and extracting it antiseptically.

3. To remove the entire astragalus.

4. To replace the displaced fragment, and take the chances of inflammation and destruction of both the hard and soft structures of the surrounding tissues.

5. To remove the displaced fragment and thoroughly cleanse the cavity it left, and put all the surrounding parts in a strictly aseptic condition, after which, pack the cavity with Semm's antiseptic decalcified bone chips, which I believe is better than replacing the detached fragment of bone; as it is very hard to make this strictly antiseptic, whilst the decalcified bone chips are, and hence less liable to set up infection in the surrounding parts.

REPORT OF CASES.

Case 1.—George M., æt. 55, an awanuenensis; on August 12, 1885, was riding with a friend in a delivery wagon, when the horse took fright and started to run away. Mr. M. became alarmed, and jumped out of the wagon on the paved street, sustaining a fracture of the astragalus of the left foot, with displacement of the fragment downward and backward under the malleolus; the internal fragment was also slightly displaced backward and inward, thus lengthening the lateral diameter of the ankle quite considerably. The foot and ankle soon swelled up and became very painful; a physician was called who pronounced it a *bad sprain* of the ankle, and treated it accordingly.

Some months subsequently the writer was called and found a fragment of the astragalus, about two inches in length, and nearly as wide, lodged under the left external malleolus; whilst the depression caused by the displaced fragment was easily detected, just beneath, inward and in front of the fibula. All attempts at reduction were without avail; but notwithstanding the marked deformity, the patient could use his foot fairly well and had quite a considerable degree of motion; but it was more or less painful and was a source of inconvenience to him all the time, and especially so in changeable weather. Later on necrosis of the external metatarsal bone set in, and at one time it was thought that the entire foot would have to be amputated; an excision, however, of the external metatarsal was all that was necessary; since which time, he has had but little trouble with it, other than what we have already mentioned.

Under all the circumstances, I considered that conservative surgery in his case was a choice of the least evil, and hence refrained from excising

the displaced fragment. The result is that this patient is now able to walk all over the city with the aid of a cane, and whilst his foot and ankle is stiff and clumsy, I believe it is better than to have risked an operation for its removal.

Case 2.—Chas. S., æt. 29, a brakeman in the B. and O. yards at Mansfield, O., was thrown off the top of a box-car by a broken brake May 13, 1889, alighting on his feet on the end of a tie; sustaining a fracture of the astragalus of the right foot, with displacement of the fragment underneath the internal malleolus.

I was called shortly after the accident, and readily diagnosed the nature of the injury, as I could easily feel the displaced fragment beneath the internal malleolus, whilst beneath and in front of the internal half of the tibia, I could readily discover the depression left by the escaped fragment of bone. In addition to this there was some spreading of the tibia and fibula, thus materially increasing the lateral diameter of the ankle; no doubt due to the tearing of the ligaments, and the strain produced by the fall, together with the escape of such a large fragment of bone, with its associate weakening of the surrounding parts.

Here again we were confronted with the question of an operation for the removal of the displaced fragment of bone, which no ingenuity or manipulation the author could devise, was able to replace.

In its present location we recognized a degree of support to the tibia, being lodged immediately underneath the internal malleolus, which support would be lost by its removal, saying nothing of the danger attending the operation to the surrounding structures; and again, conservatism got the better of us and we decided to let well enough alone. The result is a more or less painful ankle at times, with considerable loss of motion, and some deformity; but otherwise, a fairly good foot and leg which enables him to walk reasonably well and earn a good livelihood for his family.

Case 3.—Harry D., a stonemason, æt. 33, jumped off a freight train when it was in motion, October 8, 1889, and lit with one foot on the end of the tie, producing a fracture of the astragalus of the right foot, with displacement of the fragment underneath the external malleolus. The author was called to see the patient a short time after the injury, and found a fragment of the astragalus some 2 inches in length by 1 inch in width, lodged just beneath and slightly posterior to the coronoid process of the fibula. A marked depression was observed just below, in front and internal, to the external malleolus, which was evidently the nidus of the displaced fragment of the bone. In the absence of sufficient data to encourage an operation, and with the dangers that might attend such staring me in the face, I again resolved to pursue the conservative method of treatment, until something better presented it-

self to my mind as unquestionably an improvement on the conservative methods I had thus far been forced to adopt.

The results in this case are much better than either of the former cases. The patient has little or no pain, except when the weather changes, and is not inconvenienced to any extent; can walk with limping but little, and is regularly following his daily avocation as a stone-cutter.

The following interesting case was kindly given me for this paper, by my friend Prof. Thorne, of Toledo, O., Surgeon in Chief of the Toledo, St. Louis and Kansas City R. R.:

Case 4.—H. F., a German, æt. 32, weighing about 200 lbs., a lager beer brewer, and given to the liberal use of this fluid, whilst at work slipped from the lower round of a ladder, alighting upon a wet floor. The peculiar position of landing, together with the great weight of the patient, were such as to result in a fracture of the astragalus of the left foot, forcing the outer half out from its normal position, and causing quite a prominence over the outer portion of the dorsum of the foot.

A corresponding diagnosis was made, and the injury treated accordingly. In about thirty days after the accident, complete death of the overlying structures ensued, necessitating the removal of the displaced fragment of bone. This was followed by decomposition and infection, which was no doubt encouraged by his constitutional condition, and the result of his intemperate habits, until it was necessary to amputate his leg below the knee, in order to save his life.

Here we have a case where conservative surgery was followed with disastrous results which probably lost the patient his foot.

In summing up the testimony of this unfortunate injury, we have found that, in fractures of the astragalus with displacement of the fragment:

1. That reduction is the rare exception, and not the rule.
2. That total failure to reduce the fragment, is the general rule in this class of cases.
3. That these cases may get well with a fairly good and useful ankle by following a conservative method of treatment.
4. That a conservative line of treatment may be followed with disastrous results.
5. That a fair degree of recovery may follow the excision of the dislocated fragment.
6. That destructive inflammation of the remaining portion of the astragalus may follow with necrosis, necessitating its ultimate removal.
7. That a fracture involving any considerable portion of the astragalus, with displacement of the fragment, is practically if not almost invariably followed with a permanent and irreparable injury; for if resolution follows without an operation, there is a permanent deformity with associate disability, or if the fragment is removed and

the patient recovers, there is a permanent disability; or if the entire astragalus is removed, as advised by some authors, there is still a fixed disability.

It seems to me that *one* of the plain lessons we are to learn from the study of these cases, is to be very guarded in our prognosis, in fractures of the astragalus with irreducible displacement of the fragment; for if we are not, we may rue our rashness under the lash of chagrin and disappointment.

Another plain lesson seems to be stamped upon the clinical history of this class of cases; and that is, to be equally guarded in operating them, as you are in projecting your diagnosis.

But, when an operation for the removal is your plain duty, do it promptly, under the strictest antiseptic precautions, and if you have any doubt as to the danger of necrosis of the remaining portion of the bone, remove that also. Where this is not evident, it might be well to consider the advisability of packing the cavity produced by the displaced fragment of bone, after thoroughly cleansing it, with Senn's decalcified bone chips, being careful to remove all the synovial membrane before packing the cavity; for the use of these decalcified bone chips as used by Prof. Senn, after the removal of portions of dead bone, has been so satisfactory, that we believe their use in this class of cases would be followed by satisfactory results also.

Mansfield, O., April 20, 1891.

LECTURES.

THE CHEMICAL FACTORS IN THE CAUSATION OF DISEASE.

A Course of Three Lectures delivered at the Post-Graduate Medical School of Chicago, March 29, 27 and 25, 1901.

BY VICTOR C. VAUGHAN, M.D., Ph.D.,

OF ANN ARBOR, MICH.

PROFESSOR OF HYGIENE AND PHYSIOLOGICAL CHEMISTRY AND DIRECTOR OF THE HYGIENIC LABORATORY IN MICHIGAN UNIVERSITY.

(Continued from page 670.)

LECTURE III.—THE AUTOGENOUS DISEASES.

All living things are composed of cells. The simplest forms of life are unicellular, and in these all the functions of life devolve upon the single cell. Absorption, secretion and excretion must be carried on by the same cell. A collection of unicellular organisms might be compared to a community of men with every individual his own tailor, shoemaker, carpenter, cook, farmer, gardener, blacksmith, etc. However, only the lowest forms of life are unicellular; all others are multicellular. In the higher animals there is a differentiation not only in the size and structure of the cells, but in the labor which they perform. The body of man may be compared to a

community in which labor has been specialized. Certain groups of cells, which we designate by the term "organ," take upon themselves the task of doing some special line of work, the well-doing of which is essential to the health, not only of that group, but of other groups as well, or of the body as a whole. There is an interdependence among the various organs. Certain groups of cells supply the fluids or juices which act as digestants, and among these there is again a division of labor. The salivary glands supply a fluid which partially digests the starch of our food; the peptic glands supply the gastric juice which does the preliminary work in the digestion of the proteids; while the pancreatic juice completes the digestion of the starches begun in the mouth, of the proteids begun in the stomach, and does the special work of emulsifying the fats. But even some of these products of complete digestion would be harmful should they enter the circulation unchanged. The peptones must be converted into serum-albumin by the absorbing mechanism of the walls of the intestines, and while 10 per cent. of the fat of the food is split up into glycerine and fatty acids by the action of the pancreatic juice, a much smaller per cent. enters the thoracic duct in this divided form. The food may be taken in proper quality and quantity; the digestive juices may do their work promptly and properly, but if the absorbents fail to perform their functions properly, disease results. It may happen that the failure lies in improper or imperfect assimilation and the result becomes equally disastrous, and with the effects of non-elimination we are fairly conversant. Of the myriads of cells in the healthy human body there are none which are superfluous. It is true that among these ultimate entities of existence, death is constantly occurring, but in health regeneration goes on with equal rapidity and each organ continues to do its daily and hourly task. The microscope has made us familiar with the size and shape of the various cells of the body, and the students of pathology have described the alterations in form and size characteristic of various diseased states. But we must remember that in the study of these ultimate elements of life there are other things, besides their morphological history, to investigate. They are endowed with life, and they, as well as the germs which we have been studying, have a physiology and chemistry which we know but slightly. They are influenced beneficially or harmfully, as the case may be, by their environment. They grow and perform their functions properly when supplied with the needed pabulum. They are not immune to poisonous agents. They are injured when the products of their own activity accumulate about them.

The object in writing this lecture has been to collect what evidence I may concerning those dis-

eases which arise from imperfect or improper activity of the cells of the body, not due to the introduction of foreign cells. To designate this class of diseases I have selected the word *autogenous*, and I understand that in these diseases the *materies morbi* is a product of some cell of the body, and not, as in the case of the infectious diseases, of cells introduced from without the body.

It is true, without exception so far as I know, that the excretions of all living things, plants and animals, contain substances which are poisonous to the organisms which excrete them. A man may drink only chemically pure water, eat only that food which is free from all adulterations, and breathe nothing but the purest air, free from all organic matter, both living and dead, and yet that man's excretions would contain poisons. Where do these poisons originate? They are formed within the body. They originate in the metabolic changes by which the complex organic molecule is split up into simpler compounds. We may suppose—indeed, we have good reasons for believing—that the proteid molecule has certain lines of cleavage along which it breaks when certain forces are applied, and that the resulting fragments have also lines of cleavage along which they break under certain influences, and so on until the end products, urea, ammonia, water and carbon-dioxide are reached; also that some of these intermediate products are highly poisonous has been abundantly demonstrated. The fact that the hydrocyanic acid molecule is a frequent constituent of the leucomaines is one of great significance. We know that chemical composition is an indication of physiological action, and the intensely poisonous character of some of the leucomaines conforms to this fact. It matters not whether the proteid molecule be broken up by organized ferments, bacteria, or by the unorganized ferments of the digestive juices, by the cells of the liver or by those still unknown agencies, which induce metabolic changes in all the tissues—in all cases poisons may be formed. These poisons will differ in quality and quantity according to the proteid which is acted upon, and according to the force which acts.

Peptones formed during digestion do not in health reach the general circulation. When injected directly into the blood they act as powerful poisons. They destroy the coagulability of the blood, lower blood-pressure, and in large quantities cause speedy death. Brunton attributes the lassitude, depression, sense of weight in the limbs and dulness in the head occurring in the well-fed, inactive man, after his meals, to poisoning with peptones. The remedy, which he proposes, is less food, especially less nitrogenous food, and more exercise. That some substance resulting from the proteids of the food is the

cause of this trouble Brunton thinks is evidenced by the fact that the weakness and languor are apparently less after meals consisting of farinaceous foods only.

That peptone finds its way into the general circulation frequently is shown by its detection in the urine in many diseased conditions, some of which are infectious and others autogenous in character. However, propeptonuria, or albumosuria, is more common than peptonuria, and we have already seen that many of the bacterial albumoses are among the most highly poisonous bodies known, but the action of the albumoses formed during digestion has not, so far as I know, been studied. The valuable work of Kühne and Chittenden on the chemical character of these bodies should be supplemented by a thorough investigation of their physiological effects when injected into the blood. It is more than probable that valuable information would be secured by such studies. That albumose is frequently found in the urine is shown by the following list of diseases in which it has been observed, given in the last edition of the work of Neubauer and Vogel on the urine. Kössner has found it in spermatorrhœa; Köppen, in mental diseases without spermatorrhœa; Kahler, in osteomalacia; Bence Jones, in multiple myeloma; Senator and others, in dermatitis, intestinal ulcer, liver abscess, croupous pneumonia, apoplexy, vitium cordis, resectio coxæ, parametritis, endocarditis, typhoid fever, nephritis, phthisis, etc.; Loeb, in measles and scarlet fever; Leube, in urticaria; and Lassar, after inunctions of petroleum. Köttwitz, Fürstler and others find albumose frequently in the urine in mental diseases. Evidently, there is much to learn from the study of the conditions accompanied by the elimination of the albumoses in the urine. It is more than probable that the acute Bright's disease following scarlet fever, diphtheria, and the other acute infectious diseases, owes its existence to the poisonous albumoses of these diseases. Prior has recently shown that undigested egg albumin is sometimes absorbed and produces marked disturbances. A boy, after eating sixteen raw eggs, had a high fever accompanied by the appearance of both albumin and hæmoglobin in the urine.

Brieger obtained by digesting fibrin with gastric juice a substance which gives reactions with many of the general alkaloidal reagents and to which he has given the name "peptotoxine." A few drops of a dilute aqueous solution of this substance sufficed to kill frogs within fifteen minutes. The frogs became apparently paralyzed and did not respond to stimuli. Slight tremor was perceptible in the muscles of the extremities. Rabbits of about one kilogram weight were given from 0.5 to 1 gram of the extract subcutaneously. About fifteen minutes after the injection, paralysis beginning in the posterior ex-

trémities set in: the animal fell into a somnolent condition, sank and died. In some rabbits several hours elapsed before the above mentioned symptoms appeared.

Peptotoxine was found by Brieger to be formed not only by the digestive juice, but to be among the first putrefactive products of proteids, as fibrin, casein, brain substance, liver and muscle.

It is highly probable that many of the nervous symptoms which accompany some forms of dyspepsia are due to the formation and absorption of poisonous substances.

In some persons the tendency to the formation of poisons out of certain foods is very marked. Thus, there are some to whom the smallest bit of egg is highly poisonous; with others, milk will not agree; and instances of this kind are sufficiently numerous to give rise to the adage, "what is one man's meat is another man's poison."

Brunton is of the opinion that the condition which we term "biliousness," and which is most likely to exist in those who eat largely of proteids, is due to the formation of poisonous alkaloids; but of this we have no positive proof.

Whether or not the unorganized digestive ferments ever find their way into the blood in quantity sufficient to cause deviations from health, we are not in a position to state definitely. The older physiological chemists teach us that pepsin and trypsin are frequent, if not constant constituents of normal urine, but their experiments were made without any reference to the possibility of the ferments which they found being formed by the bacteria of the urine, and after carefully going over the literature of the subject I am not prepared to pass judgment on the truth of their statements. However this may be, the fact that these ferments manifest a marked toxicological effect when introduced into the blood is of great interest, especially at this time. Hildebrandt has recently reported the results of some experiments made by himself upon this subject. He finds that a fatal dose of pepsin for dogs is from 0.1 to 0.2 gram per kilogram of body weight. The subcutaneous injection of these quantities is followed by a marked elevation of temperature, which he designates as "ferment fever." This fever begins within an hour after the injection, reaches its maximum after from four to six hours, and may continue for some days. On the day preceding death, the temperature generally falls below the normal. During the period of elevation there are frequent chills.

The symptoms which accompany the fever vary somewhat with the species of animal. Rabbits lose flesh notwithstanding the fact that they continue for a while to eat well, become very weak and death is preceded by convulsive movements. Dogs tremble in the limbs, become uncertain in gait, and vomiting, dyspnoea and coma are followed by death.

On section there is observed parenchymatous degeneration of the muscles of the heart, and similar changes in the liver and kidney. There are abundant hæmorrhages in the intestinal canal, in Peyer's patches, in the mesenteric glands; and in the lungs in cats. Thrombi are frequently found in the lungs, and in some cases in the kidneys.

The effect upon the coagulability of the blood is worthy of note. At first there is a period during which the coagulability of the blood is greatly lessened, then follows a period of greater rapidity in coagulating, and it is in this latter stage that the thrombi are formed.

These experiments are interesting not only as a possible explanation of the cause of some of the autogenous fevers, which will be discussed later, but in view of the present tendency to inject such complex animal solutions as Brown-Séquard's elixir and Koch's lymph subcutaneously, and they will probably cause us to exercise a little more care in this direction.

That certain febrile conditions are autogenous there can be no doubt. These, like other diseases originating within the system, may be due to either of the following causes: 1. There may be an excessive formation of poisonous substances in the body. Thus, Bouchard has shown that the urine excreted during the hours of activity is much more poisonous than that excreted during the hours of rest. Both physical and mental labor are accompanied by the formation of these deleterious bodies, and if the hours of labor are prolonged and those of rest shortened, there will be an accumulation of effete matters within the system. 2. The accumulation of the poisonous matters may be due to deficient elimination. 3. Some organ whose duty it is to change harmful into harmless bodies may fail to properly perform its functions. Illustrations of diseased conditions arising from these several causes will be given.

First, we may mention fatigue fever, which is by no means uncommon, and from which the over-worked physician not infrequently suffers. One works night and day for some time; elimination seems to proceed normally; but after a few days there is an elevation of temperature of from one to three degrees, the appetite is impaired, and then if the opportunity for rest is at hand sound and restful sleep is impossible. The tired man retires to his bed expecting to fall asleep immediately, but he tosses from side to side all night, or his sleep is fitful and unrefreshing. The brain is excited and refuses to be at rest. The senses are alert and all efforts to sink them in repose are unavailing. Fatigue fever is frequently observed in armies upon forced marches, especially if the troops are young and unaccustomed to service. Mosso has studied this fever in the Italian army. He states that in fatigue the blood is subjected to a process of de-

composition brought about by the infiltration into it from the tissues of poisonous substances, which when injected into the circulation of healthy animals, induce malaise and all the signs of excessive exhaustion. It is possible that in this decomposition of the blood the fibrin-ferment, which according to Schmidt, is held in combination in the colorless corpuscles, is liberated; and it has been shown by Edelberg, that the injection of small quantities of free fibrin-ferment into the blood causes fever, while the injection of larger quantities is followed by the formation of thrombi, as has been demonstrated by the experiments of Edelberg, Bonne, Birk and Köhler.

Fatigue fever is often accompanied, especially during the period of elevation, by chilly sensations, and consequently it is pronounced malarial and quinine is administered, but it does no good, often harm by increasing cerebral excitement. The proper treatment is prolonged rest with proper attention to elimination.

Then there is the fever of exhaustion, which differs from fatigue fever only in degree. It is brought on by prolonged exertion without sufficient rest and often without sufficient food. The healthy balance between the formation and elimination of effete matter is disturbed, and it may be weeks before it is reëstablished; indeed, it may never be regained, for some of those cases terminate fatally. The fever of exhaustion may take on the typhus form, delirium may appear, muscular control of the bowels may be lost and death may result.

That the fever of exhaustion has been mistaken for typhoid by some of the ablest clinical teachers is shown by Peter in the following quotation: "It was in 1852," says he, "when entering upon my clinical studies, and ardent in my attendance at the clinic of Chomel, I was witness of the following instance: A young man was received under the celebrated professor's charge, suffering from prostration, muscular pain and rachialgia. Chomel made the examination with all the care and attention used by him, then, as was also usual with him, in the presence of the patient, he gave the diagnosis in Latin, which was *aut febris ptyerica aut variola incipientis*, either typhoid fever, or incipient small-pox. I felt rather dissatisfied at a diagnosis so little precise, by one so eminent in his art. The truth of the matter was, though Chomel was not aware of it, this young fellow in a state of destitution had walked from Compeigne to Paris, sleeping by the wayside at night and nourishing himself with such refuse food as chance supplied. It was under such circumstances the patient had developed febrile symptoms. The day after his admission and simply from rest in bed, he felt better, and the day following he was altogether well."

That all cases of the fever of exhaustion do not terminate so rapidly as that instanced above

by the great French teacher, is shown by one which I happen to have under my care at the present moment. A lady, rather frail in body, but without any organic disease, spent the greater part of the time day and night for ten days in the sick-room of her child who died with diphtheria. Since the death of the child, the mother has been confined to her bed with a fever which varies from 99° to 102.5° . She has no soreness of throat or other evidences of infection with diphtheria. She has no symptoms of typhoid fever, and with the exception of slight constipation, which has been easily relieved, her bowels have remained in good condition. She took but little food during the sickness of the child and has had no desire for food since. Her temperature is but slightly affected by two-grain doses of antifebrin and the highest point reached each day is very variable. The mind is clear and she has been altogether free from headache. Her temperature is lowered by a few hours sleep. This condition has now continued for nineteen days. I have pronounced this a case of fever from exhaustion, and if this diagnosis is not correct, I must admit that I do not understand the nature of the case.

A case, similar to the above, I saw some time ago in a young man who had been leading quite an inactive life as a student, and who did a very foolish thing in walking one day a distance of more than thirty miles. The next morning he had a fever, which varied from 99° to 103° , and which continued for more than one month. The physician in charge pronounced this a case of typhoid, but of the correctness of his diagnosis there was not the slightest evidence. In this instance, quinine was first employed, but it increased the wakefulness and restlessness, and was followed by an elevation in the temperature.

I have known at least one case of this kind to terminate fatally, and a most thorough post-mortem examination failed to reveal any definite lesion.

Then, again, there is the fever of non-elimination, which all physicians of experience have observed. There is a feeling of languor, the head aches, the tongue is coated, the breath offensive, and the bowels constipated. The physician fears typhoid fever, but finds that a good, brisk cathartic dissipates all unpleasant symptoms, and the temperature falls to the normal. This fever is also liable to appear among those who are confined to bed from other causes. Brunton says: "No one who has watched cases of acute diseases, such as pneumonia, can have failed to see how a rise of temperature sometimes coincides with the occurrence of constipation, and is removed by opening the bowels." The surgeon and obstetrician have often had cause to rejoice when they have found a fever, which they feared indicated septicæmia, disappearing after free purgation.

Bouchard has shown that normal fæces contain a highly poisonous substance, which may be separated from them by dialysis, and which, when administered to rabbits, produces violent convulsions. He estimates that the amount of poisonous alkaloids formed in the intestines of a healthy man each twenty-four hours, would be quite sufficient to kill, if it was all absorbed. He proposes the term *stercoræmia* for that condition which results from arrest of excretion from the intestine.

It is more than probable that the poisons of the intestines are due to the bacteria which are normally present; but this would not exclude the fever of non-elimination from the list of autogenous diseases. The bacterial cells which are normally present in the intestines, cannot be regarded as invaders from without.

It would seem from some recent studies, that not all surgical fevers are due to bacterial activity. The absorption of aseptic blood clots, and of disintegrated tissue in cases of complicated fractures and contusions of the joints, is accompanied by an elevation of the temperature above normal. A like result may follow the intravenous injection of a sterile solution of hæmoglobin, or of the blood or another animal. The causative agent in the production of these fevers remains unknown. In the blood of twelve out of fifteen patients with aseptic fever, at the clinic of Nothnagel, Hammerschlag has found free fibrin-ferment, but in five persons without fever he found the same substance in the blood. This leaves the causative agent in the production of the aseptic, or more properly speaking, the non-bacterial, fevers unknown.

The chemical theory of so-called uræmia has received support in recent researches, notwithstanding the fact that the old idea that urea is the active poison, and the theory of Frerichs, that ammonium carbonate is the active agent, have been abandoned. Landois laid bare the surface of the brain in dogs and rabbits, and sprinkled the motor area with kreatin, kreatinin and other constituents of the urine.

Urea, ammonium carbonate, sodium chloride and potassium chloride had but slight effect, but kreatin, kreatinin and acid sodium phosphate caused clonic convulsions on the opposite side of the body, which later became bilateral. The convulsions continued at intervals for from two to three days, when growing gradually weaker, they disappeared. Landois concludes that chorea gravidarum is a forerunner of eclampsia. These experiments have been confirmed by Leubuscher and Zeichen.

Falk injected into both sound and nephrotomized animals fresh urine, and the ferment of Musculus and Lea, and urine which had undergone spontaneous decomposition, without producing any symptoms which were comparable

with those observed in uræmia. However, he did find that if a few drops of an infusion of putrid flesh was added to the urine before injection, all the typical symptoms of uræmia were induced. That the infusion of putrid flesh alone had no effect, was also demonstrated. This would lead us to believe that some ferment in the infusion converts some constituent of the urine into a highly poisonous body. In this connection, attention may be called to the fact that kreatin may be converted, by the action of certain germs, into methyl-guanidin, which produces convulsions. Whether such conversion occurs in uræmia or not, and if it does what the cause of it is, are questions which must be left for future investigations to decide. It would be well for some one to test the brain and blood of a person who has died in uræmic convulsions for methyl-guanidin.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

SIMPLE METHOD FOR CONTROLLING EPISTAXIS.—DR. W. W. PARKER, of Richmond, Va., says in the *New York Medical Record*: The plan of arresting hæmorrhage from the nose, which I here describe, I have used for thirty years without one failure. When I first began to practice I used Bellocq's instrument, but found it painful, and in small children, exceedingly troublesome of application. The little device which I use is made of fifteen of the long threads of patent lint, size three and one-half, or four inches long, which I double on themselves and tie in the middle, and let one end of the string be six or eight inches long so as to pull the plug out when necessary. When doubled on itself it looks like a "comet" in miniature, with a nucleus and thirty tails or twice the number of threads used. A probe is pressed up against the centre, and is passed back upon the floor of the nasal cavity and pushed on till you reach the posterior nares. This will be known both by the resistance and the length of the probe, or the depth which you have reached. Then slowly withdraw the probe and plug the anterior nares and you have arrested the bleeding. These twenty or thirty ends floating in the blood at once coagulate it. The passage of the soft lint gives no pain whatever. If lint is not at hand I use the largest size spool cotton. The plug is removed in from twenty-four to forty-eight hours. It gives no pain and the patient is willing for it to remain. The other methods are all painful in execution, and the discomfort, while the plug remains, is very considerable.

Medicine.

BROMISM AND INTESTINAL ANTISEPSIS.—In a note read before the Société de Biologie, at the

meeting held January 24, 1891, DR. FERRET continues the study of the influence of intestinal antiseptics on bromism, already referred to in a previous number of the *Gazette (La Médecine Moderne, February 5, 1891)*. He confirms the statement already mentioned that not only may one with sufficient doses of naphthol and salicylate of bismuth prevent cutaneous manifestations of bromism, but one may by these means even cure an eruption, if already so produced. He also maintains that borax also may produce eruptions quite as serious as those which follow the administration of large amounts of bromides, and that such eruptions may be likewise treated and cured by the same method. He believes that his experience has demonstrated that this method should be generally employed, and always with a prospect of success in the treatment of the cutaneous manifestations which follow the ingestion of drugs — *Therapeutic Gazette*.

CHRONIC RHEUMATISM AND THE NERVOUS SYSTEM.—A novel and suggestive, if somewhat revolutionary, theory in reference to the dependence of chronic rheumatic joint changes on a morbid condition of the central nervous system is advocated in a work by DR. WICHMANN, of which an abstract is furnished in a recent number of the *Centralblatt für Klinische Medizin*. The author began his work six years ago, with the view of explaining the nervous symptoms associated with rheumatic joint affection, and the dependence of those upon a central cause was first suggested by the occurrence of symmetrical phenomena such as patches of erythema, subcutaneous nodules, etc. Charcot has explained the occurrence of contractures in rheumatism by supposing that there is an inflammation of the articular nerves, the influence of which is transmitted to the centres in the cord, there giving rise to irritation of the motor roots: and the fact that the contracture is usually in the flexed position is explained by the greater power of flexors as contrasted with extensors. But it is pointed out that this would not explain the occasional occurrence of extensor contraction, and that, moreover, in other conditions giving rise to joint affection, such contractures do not take place. Further, as supporting the theory of a central lesion for those conditions, attention is directed to the occurrence of arthropathies in tabes and other spinal conditions, and it is contended that a feasible explanation of the vaso-motor and trophic disturbances—such as "glossy skin"—as well as of the disturbance of sensibility, is offered by such a hypothesis.—*The Lancet*.

CHLOROSIS AND ITS TREATMENT.—DR. FREDERICK SCHOLZ, of Bremen, has published a remarkable work on chlorosis, the outcome of observations made during the last twenty years.

Instead of regarding the deficiency of iron or hæmoglobin, or even that of the red corpuscles, as the primary affection, he states that contraction of the vessels is always present in these cases, as indeed was observed by Bamberger, Rokitsky and Virchow; and this, he contends, is not to be regarded as a complication due to an altered condition of the blood, but as the primary condition which is followed by the morbid change in the blood. As a matter of fact, the vessels are, he says, too full, or in the condition termed by the older physicians *plethora ad vasa*, the blood being—or becoming—abnormally serous. Long ago his attention was struck by the cold and livid condition of the skin in anæmic subjects, and he was led by this to employ hot baths, together with gentle friction, in the treatment, with the view of acting directly upon the skin, so as to improve the vitality and nutrition generally. The success of his first attempts was so marked that he was encouraged to persevere in this line of treatment, and he has since had many opportunities of extending his experience with it. Hot baths diminish the plethora by relaxing the tension of the vascular system, which is high, quickening the circulation, and thus relieving the palpitation, dyspnoea and other symptoms. In thirty cases where the distress of the patient was very great, Dr. Scholz has gone a step further and supplemented the hot bath by venesection. Paradoxical as this treatment may appear, it was followed by marked benefit, and if the theory of the pathology of chlorosis above mentioned be correct, there can be little doubt that the novel line of treatment practiced by Dr. Scholz is justifiable.—*Therapeutic Gazette*

Surgery.

THE TREATMENT OF STRICTURE OF THE MALE URETHRA.—DR. J. WILLIAM WHITE (*University Medical Magazine*, Vol. iii, No. 6, 1891), after giving his views *in extenso* as to the treatment of organic stricture of the male urethra, summarizes them as follows:

1. Strictures of large calibre—that is, of more than No. 15 French, situated at or behind the bulbo-membranous urethra—are to be treated, almost without exception, by gradual dilatation.

2. Strictures of large calibre, occupying the pendulous urethra, are to be treated by gradual dilatation when very recent and soft, and by internal urethrotomy when of longer standing, distinctly fibrous in character, or non-dilatable. It is to be remembered that the great majority of so-called strictures of large calibre of the pendulous urethra are merely points of physiological narrowing.

3. Strictures of the meatus and of the neighborhood of the fossa navicularis should be divided upon the floor of the urethra whenever it is evident that they are real pathological conditions

producing definite symptoms, and not normal points of narrowing.

4. Strictures of small calibre (less than No. 15 French) situated in advance of the bulbo-membranous junction, unless seen very early and found to be not usually soft and dilatable, furnish the typical condition for internal urethrotomy, which should be done preferably with a dilating urethrotome, and invariably with all possible antiseptic precautions.

5. Strictures of small calibre (less than No. 15 French) situated at or deeper than the bulbo-membranous junction should be treated, whenever possible, by gradual dilatation. In a case of resilient irritable or traumatic stricture in this region, or of stricture, which, for any reason (as the occurrence of rigors), is non-dilatable, external perineal urethrotomy is the operation of choice.

6. Strictures of the deep urethra permeable only to filiform bougies should be treated by gradual dilatation when possible, the filiform being left *in situ* for some time, and followed by the introduction of others, or used as a guide for a tunnelled catheter. If the stricture be not suitable for dilatation, external perineal urethrotomy should be performed.

7. Impassable strictures of the deep urethra always require the performance of perineal section.—*American Jour. Med. Sciences.*

WHAT BECAME OF A SOFT RUBBER PESSARY.—According to a report of the St. Louis Medical Society (*Cin. Lancet Clinic*) Dr. W. B. DORSETT exhibited fragments of a soft rubber ring or air pessary, with the following history: Patient over 50, admitted to hospital for supposed cancer of uterus. She had fever, a very offensive discharge from the vagina, and much pain. The use of a syringe revealed a hardened pessary, which required to be broken into pieces before removal. The pessary had been introduced one month before, but had become hard and inflexible by the action of the vaginal secretions, causing indirectly excoriations, fissures and lacerations, with septicæmia as the result. Dr. Jacobson followed with the statement that he had removed a pessary reposit about five months before, and which had been closed over by the vaginal walls. A very offensive discharge was also present in his case.

Pathology.

ETIOLOGY OF TETANUS.—Tetanus, as distinguished from the tetanic spasms of strychnine poisoning, and the opisthotonos, etc., incident to some myelites, has generally been considered as a disease, or aggregate of phenomena, consisting essentially of a tonic spasm of all the muscles of the body, beginning with those of the jaws and neck, and ending with those of respiration. Two

forms have been recognized—the traumatic and the idiopathic; the former always following the reception of some wound, either one into which dirt has entered, or which has taken on an unhealthy character; the other, in which no such cause has been discovered, has been attributed to exposure to cold and wet—such an explanation being, however, based on negative evidence.

But the researches of Carle and Rattone, Nicolaier, Rosenbach, Brieger, Beumer, Langer and Eiselsberg, leave no room for doubt that it is properly to be classed among specific diseases, and that the phenomena are caused by the entrance into the organism of a microbe which exists outside of the body, and is widely or almost universally distributed in earth and dust. It has been induced in animals by the injection of emulsions of, or the juice expressed from, the sciatic nerve of men or other animals that have died of the disease. Nicolaier used common garden soil with success, though the same earth, when baked or otherwise sterilized, merely set up local irritation and abscesses. Rosenberg discovered and used a bacillus present in the substance of the nerves of tetanic individuals; Brieger employed a chemical product derived from pure cultures of the bacillus; Beumer used all these means; and Eiselsberg has recently reinvestigated the whole question.

The first impulse to research in this direction was given by Drs. Carle and Rattone, who, observing an extraordinary proportion of cases of tetanus among a number of workmen admitted to the hospital in consequence of injuries received by the fall of some old buildings in course of demolition, concluded that there must have been some common and local cause, and thought that it was most probably to be found in the dust that had entered the wounds. Inserting some of the dust gathered from the place into the subcutaneous connective tissue of various animals, they produced tetanus in the larger proportion.

Langer reported the cases of five horses who died of tetanus after castration with the same écaraseur, which, having been subsequently boiled in oil, was used without ill results.

Eiselsberg, having verified by experiment the results obtained by all previous observers, comes to the conclusion that the belief in the spontaneous origin of some cases of tetanus, like those of erysipelas, is based on errors of observation, some abrasion being present though unnoticed.

The greater frequency of tetanus after wounds, especially lacerated wounds of the hands and feet, is easily accounted for by the fact that, in the acts of grasping or treading, such wounds are most likely to be attended by the entrance of dirt.—*American Journal Medical Sciences.*

AN EARLY ATAXIC SIGN.—WEISS, of Vienna, says that an early symptom of locomotor ataxia

is an inability on the part of the patient to walk backward, while as yet, and in other ways, he may be able to walk with firmness and rapidity. Perron, of Bordeaux, has also, as we stated several weeks ago, recently suggested an early diagnostic sign, which is simply a modification of the Romberg test—namely, causing the suspected ataxic patient to stand upon one leg, instead of two, with the eyes closed. If the patient shows a tendency to fall, it may be inferred that the spinal trouble has begun which will lead on to locomotor ataxia, even if the Romberg test fails, as it not infrequently does in cases that are not well advanced.—*New York Medical Journal.*

HEMIANOPSIA AS A DIAGNOSTIC SIGN OF BRAIN DISEASE.—At the close of an interesting paper on the above subject the author says:

The following propositions embody the main points, together with a few to which time does not permit me to refer:

1. Lateral homonymous hemianopsia is always the result of a lesion between the chiasm and the occipital lobe, situated on the side opposite to the blind half visual fields.

2. Temporal hemianopsia is invariably the result of a lesion involving the chiasm, and probably always its central mass, though possibly its under surface.

3. Nasal hemianopsia is always the result of arterial disease, or possibly two symmetrical morbid growths, pressing on outer margins of chiasm.

4. Horizontal hemianopsia may be the result of a symmetrical lesion of both occipital lobes, so situated as to involve homologous quadrants of the retina; or possibly a lesion pressing upon the under or upper surfaces of the optic nerves.

5. Color hemianopsia is always of cortical origin.

6. The presence of the pupillary light reflex in the blind segments of the retina, proves that the lesion is back of the basal ganglia.

7. The decussation of the optic fibres in the chiasm is partial, but varies considerably in degree, thus explaining the variations in the size of the blind fields in lateral homonymous hemianopsia.

8. In temporal and nasal hemianopsia, and all other cases of hemianopsia, due to lesion in front of the basal ganglia, all forms of vision are invariably lost.

9. The macula lutea, and a variable space around it, is supplied with fibres from both hemispheres, thus explaining the pretty constant preservation of central vision, as well as variations of the boundary line between the blind and sensitive fibres of the retina in cases of hemianopsia.

10. Choked disc can no longer be regarded, as stated by a recent systematic writer (Ranney), as an absolute contraindication against the trephine.—McCaskey, in *American Lancet*.

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THE EDITORIAL MANAGEMENT OF "THE
JOURNAL."

The emphatic endorsement of the editorial and business management of THE JOURNAL by the Association in general session, and the recommendation that the same be continued were, of course, matters of extreme satisfaction to those charged with these duties, as was the unanimous concurrence of the Board of Trustees in the decision to continue the publication of THE JOURNAL at Chicago.

A very large number of the members supposed that the continued publication of THE JOURNAL in that city also ensured the continuance of its former editorial and business management. Upon this latter question its Trustees are divided, and not being able to reach a satisfactory conclusion at Washington, a special meeting is called to meet at Chicago for the final decision of the question.

In view of this fact we wish to express our sincere thanks to the profession, and especially to the medical press, for the very cordial consideration which we have received at their hands, and to state that with this number of THE JOURNAL the editorial supervision which has existed for the last two years will terminate.

THE FORTY-SECOND ANNUAL MEETING.

The annual meeting of the Association at Washington convened on May 5. The general sessions were held in Albaugh's Opera House, and the Sections were assigned to various assembly rooms in the city. DR. D. C. PATTERSON, as

Chairman of the Committee of Arrangements, was everywhere present as occasion required, and discharged the duties incident to his position in a manner most admirable.

To the HONORABLE JOHN W. ROSS, one of the Commissioners of the District of Columbia, the Association was indebted for a most cordial welcome. In the course of his Address he proceeded to consider the fact that while there was a sacredness of relation between the client and his counsel barring the latter from the communication of knowledge obtained from the client, no such relation and restriction existed between the physician and his patient. He expressed his surprise that the medical profession had not required at the hands of legislators such exemption from the requirement to divulge professional secrets as obtains with the legal profession. His allusions to the Hippocratic oath were with words well chosen, and the eloquence of his delivery lent a special interest to the opening session.

The President's annual address, delivered by DR. W. T. BRIGGS, of Tennessee, was finely conceived, concisely expressed, delivered in a most creditable manner, and was received by the Association with repeated expressions of applause. He spoke of the desirability of a unification of the entire profession—referring to the organization of this Association, the work it had already accomplished, and paying a feeling tribute of respect to its few surviving founders. His recognition of the rapid advances made in this country in medical education was highly complimentary to our medical colleges, and his anticipations of a still higher standard of requirements for graduation in medicine were most hopeful. He advocated such modifications of present methods as would assure more of science and less of business in our annual meetings. He advocated the development of an additional Section, to be devoted to original research. He spoke at length upon the question of the further development of THE JOURNAL and the necessity, by means of ample remuneration, of securing the best possible representation both of talent and culture in its editorial management.

At the conclusion of his address a committee was appointed to consider its various recommendations, and report upon the same at a suitable time.

The President acquitted himself in a manner

most creditable as a presiding officer. His rulings were prompt, decisive and impartial, and commanded universal satisfaction.

The addresses which were presented in the successive morning sessions were of a high order of merit, as might have been anticipated from the known ability of the men charged with their preparation. But interesting as they were, we cannot refrain from expressing the conviction that more of the morning hours devoted to Section work would materially enhance the value of our annual sessions.

Neither time nor space will permit reference to the special work in the Sections. Our readers are referred to their several reports. The success in several of the Sections, both in the securing of valuable papers and eliciting able discussions of the same, has been beyond previous precedent. In due time their publication will attest the fact.

The receptions and entertainments were in keeping with the well known hospitality of our Capital City. That, given by the physicians of the city, at the Arlington, was largely attended and highly enjoyable. The reception given by DR. W. A. HAMMOND was also largely attended and a most cordial welcome was fully appreciated.

The report of the General Secretary will give the details of the meeting in full.

Detroit will be the next place of meeting under the presidency of DR. HENRY O. MARCY, of Massachusetts.

THE VALUE OF KOCH'S TUBERCULIN.

In *surgical tuberculosis* tuberculin has given more satisfactory results than in pulmonary disease. At any rate, no German surgeon has spoken of it with the want of confidence which marks a few of the reports from clinics for internal disease. In tuberculosis of bones and joints it has proven a valuable remedial adjunct if used with discrimination. Wherever the indications are that a tubercular joint requires operative measures, tuberculin is not a substitute for an operation. But in the early stages, where conservative treatment has a fair chance, the desired recovery can be obtained with much greater certainty and in a much shorter time by the use of tuberculin, in conjunction with rest and the usual means of conservative treatment. This observation, made by many surgeons, proves that in those cases, like the incipi-

ent stages of joint disease, where a spontaneous disappearance of tubercle can occur, the natural mode of repair is powerfully aided by the remedy. On the other hand, it is not unlikely that the very object, the reabsorption of the tubercular infiltration, without destruction of tissue, can be frustrated by too intense reaction. If the destruction has gone too far for conservative treatment, tuberculin alone is of no service. Whether its action can facilitate a subsequent operation by allowing the surgeon to distinguish more easily between healthy and diseased tissue, on account of the partial necrosis of the latter, has not yet been definitely decided. All observers agree that the action of tuberculin shows to best advantage after operations removing the tubercular parts. For now, if no reaction occurs, a definite guarantee of freedom from tubercle bacilli is given, which the most thorough operation does not give with equal certainty. If, however, the parts are still infected, the wounds heal and close with a rapidity which contrasts favorably with the frequent persistence of fistulae and the not rare necessity for secondary operation after treatment without tuberculin. The published reports seem to show that in surgical cases without internal complication, tuberculin is more manageable in its effect and evidently a less dangerous agent than in phthisis and other internal localizations.

While tuberculin produces a decided local reaction in tuberculous glands, followed by their shrinkage, it does not appear as yet from any report that such glands can be completely cured, at least without operation. Occasionally they suppurate after injection, and can then be opened, healing in this way quite promptly.

The reaction to tuberculin (local as well as general), has proven the tubercular nature of various forms of disease, hitherto not known to be such. Koenigshoefer and Maschke claim to have seen local reaction, with a decided curative tendency, in a form of chronic iritis, as well as in a case of (non-syphilitic) interstitial keratitis. Their reports, however, are not complete enough to be convincing. More reliance may be placed in the same authors' statements concerning the curative effects of the lymph in a case of conjunctival disease, closely resembling trachoma. They also found that corneal ulcers in scrofulous children react favorably to tuberculin. The same observation has been made, as to the reaction of cor-

neal infiltration at least, in *some* of the scrofulous cases by Uthof (and also by the writer). Several reports from other hospitals also state that in a few instances, under the tuberculin treatment, an ulcer developed in the cornea, which healed with a promptness suggesting its tubercular nature and the influence of the agent upon it. A very striking instance of tubercular tumor of the uvea is described by Landgraf, which disappeared completely by absorption in consequence of thirty-five injections made in the course of six weeks.

In looking for an explanation of the action of tuberculin it must be remembered that the substance does not directly destroy the bacilli in the tissues. This statement made by KOCH has been corroborated by ISRAEL, SCHIMMELBUSCH and others, by inoculating animals successfully with tubercular material taken from patients under the tuberculin treatment.

As KOCH stated originally, tuberculin acts not upon the bacilli, but upon the tubercular tissue. Coagulation necrosis, which KOCH referred to as the result of the remedy upon the diseased part, has not been found to occur in the human subject except as the result of an excessively intense reaction, and then only occasionally. Patches of skin in lupus and granulations in fungus joints may become necrotic in mass, but this is an exception rather than the rule. In most instances of post-mortem examinations and of specimens taken from the skin of lupus patients under the action of the agent no evidences of necrosis of any of the cells constituting the tubercle have been found. But clinical as well as microscopical observation shows that tuberculin causes an inflammatory process in and around the tubercular part. There is intense congestion and effusion of serum with more or less white corpuscles. The effused serum forms minute vesicles under the epithelium over the lupus nodule, and even detaches the epithelium ultimately. When the transient inflammation has subsided the previous histological condition is apparently restored. The tubercles and the bacilli they harbor are still there. But after repeated inflammatory reactions SCHIMMELBUSCH has found the lupus nodules gradually shrinking. More advanced reparative changes have been found by RINDFLEISCH in tubercular ulcers of the intestines in subjects dying of pulmonary phthisis. Here the characteristic grayish-yellow coating of the ulcers was disap-

pearing or had disappeared, and their surface was livid with healthy-looking granulations which were cicatrizing from the margins. The microscope showed still the presence of the typical cells of the tubercle, the giant and epithelioid cells, but these were changing their shape into that of a spindle, evidently become transformed into connective tissue. RINDFLEISCH interprets the appearances as denoting an immunity of the tissue against the destructive action of the bacilli.

It must not be overlooked that tuberculin exercises an influence upon the entire tubercular organism, as well as a local effect upon the tubercular tissue. The tubercular subject suffers at certain stages of the disease from constitutional symptoms, like the loss of strength, regular and irregular fever and night-sweats, which can only be construed as the result of systemic poisoning by the products of the tubercle bacilli. These symptoms have in many patients been stopped by tuberculin before the tubercular infiltration had disappeared. It must hence be inferred that the remedy either checks the further formation of poisons by the bacilli—a view not supported by any other evidence—or that it renders the body insusceptible to their action. In view of the similar state of facts as proven to be the cause of experimental immunity in tetanus and in the diphtheria, the last explanation has a good deal of probability. Unfortunately we cannot predict in every case that tuberculin will lead to such a result, or that such immunity from poisoning once established will be permanent. It must be left to future researches to decide what special conditions interfere with the specific curative influence which tuberculin can in certain instances exert upon tubercular disease.

THE THERAPEUTICAL VALUE OF SUSPENSION IN DISEASES OF THE SPINAL CORD.

It cannot yet be said that the question of the utility of suspension in treating patients afflicted with posterior spinal sclerosis, as well as some other diseases of the spinal cord, is settled. Conflicting reports are still published regarding the influence the procedure exercises on the spinal cord; some accepting HORSLEY's experiments that showed it was impossible to stretch the cord during life by any manipulation; and during the past year DR. JAMES COGNEY published a paper in

which he reported experiments on the living and dead subject that showed that a total shortening of the spinal cord was obtained in suspension, that in the lumbar region the cord was unaffected or slightly relaxed, in the cervical region the membranes were slightly stretched, and in the dorsal region the cord was shortened; hence suspension caused relaxation, not stretching, and the former possibly acted mechanically by breaking down adhesions and removing impediments to the circulation. This reversal of the generally accepted theory is diametrically opposite to the results of BONUZZI's experiments, in which a body lengthening of two to three centimetres was found to occur in suspension, and by opening the spinal canal a needle placed in the cord was lowered, from eight to twelve millimetres during suspension, the cord was made thinner and more resistant and the cauda equina very tense; the tension of the cerebro spinal fluid was increased and there were venous congestion and increased rapidity of the circulation. These experiments concur in the main with those of MORSCHUTKOVSKY.

DR. LUMBROSO has experimented with animals, finding a very evident elongation of the vertebral column and the cord, as well as an anæmia with subsequent vascular congestion of the meninges and cord that attained a maximum intensity not at the moment of suspension, but afterward. He advises suspension of short duration as the spinal anæmia observed might be dangerous if protracted; the traction should be graduated by the weight of the patient; and the séance should last for a few seconds in the beginning, gradually being increased to one or two minutes, each séance being followed by an interval of from forty-eight to seventy-two hours. Not only has this treatment benefited ataxic patients, but also patients having infantile paralysis, amyotrophic lateral sclerosis, progressive muscular atrophy, etc.

ALTICHERI reported during the past year one hundred and seventy-four cases of ataxia in which suspension improved the patient in one hundred and twenty-eight cases, produced no result in twenty-six, and in twenty cases the treatment was interrupted. In pseudo-tubercles and impotence he found this treatment very valuable; while in paralysis agitans, disseminated and lateral sclerosis, and chronic myelitis his results were too variable.

GILLES DE LA TOURETTE finds that paralysis agitans in the middle period of the disease, chronic sciatica, and ataxia are benefited by suspension. In the latter diseases one fourth of the cases are greatly improved, thirty-five per cent. are benefited moderately, and forty per cent. are not benefited.

ROSENBAUM obtained in seventy-six cases of ataxia, improvement in twenty-five, doubtful results in nine, no improvement in twenty-seven, and in fifteen cases treatment was interrupted. In four cases of myelitis, three of paralysis agitans, one of disseminated sclerosis, and one of lumbago, no benefit followed this treatment.

BENEDIKT in two and TIBERGHIEN in twenty-six cases reported favorable results from suspension.

These figures show that during recent months the therapeutic application of suspension has not lapsed into desuetude, and a more careful study will probably indicate what class of cases will be most benefited by it. Certainly anything that will ameliorate more or less distressing symptoms in sixty per cent. of ataxic cases should not be relegated to the lumber-room of therapeutical appliances.

"CROWNER'S QUEST LAW."

A New York daily has begun to stir up the coroner's office with a long pole, perhaps with no higher aim than to amuse the public with a sensation, but yet some good may result. The charges of inefficiency, ignorance and indifference are somewhat sweeping, and the proposal to delegate the functions of the office to the police rather preposterous. The intimation that autopsies are much to infrequent may be true, but the time was not long ago when a counter-charge was on the popular tongue, and special legislation was invoked for the cutting off of the fees, which resulted in making searching examinations discretionary. Increase of population we cannot but admit has really demanded more work and speedier dispatch in its performance. Besides, too, in communities polyglot in character and of a somewhat feeble public virtue, political plums are expected to grow on every tree. Herein lay the root of the evil.

The office itself is a relic of antiquity and, as the name imports, originally represented the

Crown, its sole function being the detection of crime. Thus from time immemorial a glamour has clung to it like a nimbus and inspired a vague dread of consequences to the extent of the common refusal of cutting down a swinging suicide with the remote probability of saving life. Too much legislation has been wasted in attempting to keep up this office, which should have been left to expire of its own volition. All the errors, according to our idea, belong inherently to the office itself more than to its administration. Certain of the verdicts rendered have partaken of the grotesque and have profited the profession very little,—the officials in the main have been nominated on account of their party zeal and not for their intelligence; their subordinates have been obliged to perform their responsible duties in a perfunctory way, and an easy-going public have fallen upon the conclusion that the dead need no avengers. The remedy lay in the appointment of physicians, probably avouched for by health boards, medical examiners in very truth, such as Massachusetts has set up as models by way of an experiment. The world has become wise enough to intrust the profession with these its proper duties, and so give opportunities for contributions to pathology by all those incumbents who are content to exchange emolument for the ambition of beneficence. When all this is accomplished the verdict "Heart Failure" will take its place alongside of the more pious one of "Visitation of God," and floating corpses will not all have once been animated by inebriates, who have tottered down into the sewer-tainted rivers of those cities whose aspirations are chiefly commercial.

EDITORIAL NOTES.

A DISTANT WITNESS FOR VACCINATION.—Small-pox was carried by a vessel to Ooshooia, near the southern extremity of Terra del Fuego. At that point there is a mission settlement containing about 150 natives, under the care of Mr. E. C. Aspinall, medical superintendent, and five other English ladies and gentlemen. A single case was left by a Buenos Ayres Captain, near Ooshooia, and all the natives were made, in spite of the protest of Mr. Aspinall, to load the vessel with wood for its return to Buenos Ayres. The consequence was an epidemic of not less than

sixteen cases—the disease not being surely spent at the time of the last writing—with nine deaths. The mission church was emptied and converted into a hospital. In order to keep the natives from being exposed to the sick or the dead the white people served them, did the nursing, dug the graves and buried the bodies. Fortunately vaccine was not wanting and it was applied at Ooshooia and adjacent plantations among both the Europeans and their native employés. Notwithstanding the vaccinations some of the natives have taken the varioloid, but all the deaths by small-pox occurred among those natives who had not been so treated, or who had been vaccinated after the infection had taken place.

THE EBB OF INFLUENZA.—Influenza, with fatal results, is now prevailing throughout Britain. It has not shown itself so much in London as in the outlying districts, yet there is ample time for its extensive prevalence in the metropolis, for it is only in the first stages of its re-manifestation.

GRANTS FOR SCIENTIFIC INVESTIGATIONS.—The British Medical Association announces its readiness to receive applications from its members who desire aid in furthering particular research. This patronage of a great association is no small incentive to the hardy and delving medical mind, and certainly will not be without its honest and far reaching outcome—more noble and more comprehensive than mortal sense has power to appreciate.

THE THERAPEUTIC POVERTY OF FIFTY YEARS AGO.—Dr. John Kent Spender, of Bath, a very pleasing writer on therapeutical subjects, has contributed to the *Practitioner*, London, some reflections on the poverty of the profession fifty years ago, in the matter of drugs, as compared with the embarrassment of riches now-a-days. Diseases were then called "incurable" simply because we had not yet discovered the means of curing them. Our medical poverty, in and about 1840, was such that when "crying sufferers entreated us, we could only confess our impotence to help them. There were whole domains of work in which we seemed no better off than Scott's north-country doctor, who boasted of his 'twa simples of calamy and laudamy.' And we were chilled by that therapeutic nihilism which began in the school of Vienna, and has infected a large number of practitioners in all parts of the

world." Pathology with its microscope, diagnosis with its verifying post-mortem, and a laughing skepticism ruled the courts of medicine, for the secrets of healing had not been disclosed. But now we employ our therapeutic possessions as if we trusted them, and we lean upon the rock of physiological experiment and clinical observation. The doubter and the scorner may be with us still, but they have become reticent and retiring in the face of a constantly strengthening array of therapeutic forces. To Sir Thomas Watson and Dr. Latham the profession is largely indebted for indoctrinating that more humane philosophy that the sick have the rights of being cured by earnestness and faithfulness in the application of remedies.

"INTERNATIONAL CLINICS."—J. B. Lippincott Company will, beginning with April, issue quarterly thereafter a work entitled "International Clinics." This work will comprise the best and most practical clinical lectures on medicine, surgery, gynecology, pediatrics, dermatology, laryngology, ophthalmology and otology, delivered in the leading medical colleges of this country, Great Britain and Canada. These lectures have been reported by competent medical stenographers and thoroughly revised by the professors and lecturers themselves. The object of the work is to furnish the busy practitioner and medical student with the best and most practical clinical instruction in concise form. Each volume will consist of over 350 octavo pages, illustrated with photographic reproductions of important cases.

THE PLACE AND VALUE OF TUBERCULIN.—It is not probable that this question will long remain in the present indefinite condition. Reports covering many hundreds of cases, under different hospital management, and under climatic and general hygienic variations, are being rapidly advanced. The "sum" will show the "substance," and the eager public, as well as the earnest physician, will have the foundation of experimental fact upon which to rest their prayerful hopes and sanguine anticipations.

THE ACTION OF COCAINE ON THE CIRCULATION.—As a result of painstaking study in the direction of ascertaining—experimentally—the exact effects of the drug cocaine upon the circulatory system, Dr. Edward T. Reichert (*Ameri-*

can Lancel) arrives at the following important conclusions: 1. Very much depends upon the individual susceptibility in noting the medicinal effects. 2. Repeated small doses first decrease, then increase, and finally decrease the pulse-rate. 3. The cardio inhibitory centres are always affected. 4. The arterial pressure is always increased, unless after large doses, when temporary decrease may happen. This increased arterial pressure may continue longer than the period of acceleration of the heart beat. This increase is chiefly due to stimulation of the vaso-motor centres, to some stimulation of the vessel-walls, and to the increased pulse-rate. These and other noted results show, 5, that cocaine is a decided circulatory stimulant.

MEDICAL ITEMS.

HONORS FOR VIRCHOW.—At the last meeting of the German Congress of Internal Medicine, honorary membership was extended to Virchow on the occasion of his 70th birthday anniversary.

GOETHE AS AN ANATOMIST.—Recent correspondence to the *British Medical Journal* says.—"Professor Bardeleben, of Jena, has found amongst Goethe's unpublished papers in Weimar an essay "On the Comparative Anatomy of the Skull of Mammalia," written throughout in Goethe's own hand. The essay is dated 1794."

RELATIVE FREQUENCY OF GALL-STONE IN THE SEXES.—Dr. Furbinger, in his paper read before the last session of the German Congress of Internal Medicine, analyzed the histories of sixty-four cases of gall-stone treated by him at the Friedrichshain Hospital, and of this number thirteen were males and fifty-one females.

ANOTHER CONSUMPTION CURE.—It is now announced that M. Germain-Sée has developed a method of cure for this great bane. Germain-Sée places his patients for several hours daily in a hermetically closed chamber into which a current of compressed and medicated air is slowly admitted. The air is medicated by passing it through a mixture of creasote and eucalyptol. Results are to appear later.

QUININE BY SYNTHESIS.—Two Frenchmen, MM. Grimaux and Arnaud, announce that they have discovered a synthetical method of preparing quinine.

AMERICAN MEDICAL ASSOCIATION.

Forty-second Annual Meeting, held at
Washington, D. C., May 5-8, 1891.

GENERAL SESSION—FIRST DAY.

The Association assembled May 5 at Albaugh's Opera House, Washington, D. C., at 10 A.M. It was called to order by Dr. D. C. Patterson, Chairman of the Committee of Arrangements; who introduced Rev. S. M. Newman, D.D., of the First Congregational Church, who offered a prayer. The Hon. John W. Ross, Commissioner of the District of Columbia, welcomed the Association to Washington. The Chairman of the Committee of Arrangements, announced the programme and other arrangements for the meetings.

The President, Dr. William T. Briggs, Tenn., took the Chair, supported by Vice-President Dr. C. A. Lindsley, Conn., and ex Presidents Drs. T. G. Richardson, W. W. Dawson and P. O. Hooper. The President then delivered the

ANNUAL ADDRESS.

(See page 649.)

On motion of Dr. J. C. Culbertson, O., thanks were tendered the President for his able address, and a committee of five was appointed to develop the points therein, and to report to the Association the last day of the meeting. Committee—Drs. Culbertson, Hooper, Moyer, Marcy and Connor.

Dr. Hooper, of the Board of Trustees, presented a preliminary report from that body.

To the President and Members of the American Medical Association:

The Board of Trustees have the honor to make a preliminary report on the question of location of THE JOURNAL.

At a special meeting of the Board, held in November, 1890, the Trustees, having individual views as to the best method of strengthening THE JOURNAL, resolved to recommend, first, an established home; second, that that place of permanent establishment be the National Capital. After free discussion and interchange of views, it was resolved to submit the question to the members of the Association, through the columns of THE JOURNAL, before making their final report. The result of that course of action has been to convince them that the majority of the members desire that the place of publication shall continue to be in Chicago. They, therefore, in obedience to that expressed opinion, hereby report that Chicago is the undoubted choice of the Association as the place of publication of THE JOURNAL.

The undue excitement that has taken place in regard to the matter, and the sectional antagonism that has been engendered, is to be deprecia-

ted, but the controversy has strengthened THE JOURNAL by increasing the subscribers, and stimulating the interest of members heretofore lukewarm, and they make this preliminary report in order to promote harmony in the meeting, quiet misapprehension, and give due notice of this action in advance of the regular report.

P. O. HOOPER, Pres't.

JOHN B. HAMILTON, Sec'y.

On motion, the report was received with thanks, and unanimously adopted.

The amendment offered by Dr. A. L. Gibson, U. S. Navy, at the last meeting, was then taken up. "To amend the By-Laws so as to make the General Sessions commence on Wednesday, in place of Tuesday."

A motion by Dr. X. C. Scott, Ohio, to lay the amendment on the table, was lost.

On motion of Dr. I. N. Quimby, N. J., the subject was laid over until 11.30 A.M. on Wednesday.

Dr. Barrington, of Ireland, was, on motion of Dr. R. Reyburn, D. C., made a member by invitation.

Dr. N. S. Davis, Ill., announced that the American Medical Temperance Association would meet at G. A. R. Hall on Thursday, at 9 A.M., and invited all to join the Association.

Dr. Gihon then read the report of the Rush Monument Fund.

REPORT OF RUSH MONUMENT COMMITTEE.*

For the seventh time, after as many years, the Rush Monument Committee are only able to report *progress*, but progress so slow that seven times seven years, at this rate, will find the end still unattained which, seven years ago, seemed to be a matter of only as many months.

Those of you who were present at the Washington meeting in May, 1884, when the idea of this monument was broached, will remember with what alacrity the proposition was received. The large body of delegates and members in attendance, at that meeting, were struck, as you cannot fail to be, when you visit the manifold attractions of this beautiful Capital, by the fact that, in this city of monumental memorials of the distinguished Fathers of the Republic, there is not one of any medical man. Is this, repeating language heretofore used, because among the patriotic builders of this nation, our profession has not furnished one? Are painters and sculptors, presidents and judges, generals and admirals, scientists and discoverers, teachers and divines, philanthropists and politicians only those who have deserved this recognition from their country? Has there been no great doctor in medicine whose life has been as exemplary, whose patriotism as exalted, whose fame as extended as any of these men whose marble effigies confront us in whatever direction we look in this sanctuary centre of our

great country? Or is it that Medicine, alone among the professions, fails to honor its own sons and give them royal acclaim for royal deeds?

During the seven years in which your Committee have been employed upon the unwelcome task of soliciting contributions for this monument, which this Association has year after year commended with enthusiasm, two facts have become patent; *first*, that the events of our National history of which the achievements of American physicians were important parts, are not made matters of medical education, else the name of Benjamin Rush would be a household word in every doctor's dwelling in the country; and *second*, that in the city which he honored with his residence, life-work and heroic sacrifice unto death, petty animosities and jealous rivalries have survived, in the descendants of men of lesser light and lesser renown, to harden their hearts and tighten their purse-strings, in refusing to honor the name and perpetuate the memory of one whom great physicians of this day declare to have been the greatest physician, patriot, philosopher and philanthropist, all in one, which this country has ever produced.

Disheartened at the slow increase of the Rush Monument Fund, especially when statues of later inception were being completed to men of other callings in this country, for labors that were not distinctively National, and to physicians, in foreign lands, whose services to humanity were far less valuable, your Committee sought advice as to better or more practical methods of operation. One suggested by an eminent promoter of charitable enterprises seemed to them worthy of trial—the distribution of "coin cards," or cards containing a space in which a silver half dollar could be placed by the contributor. To spare them all trouble whatsoever, a stamped envelope, printed with the Treasurer's address, was printed, that he might have nothing more to do than place a half-dollar in the space in the card, inclose that in the envelope, seal and drop it in the nearest mail box.

Your Committee deemed it expedient to begin the distribution of these cards in Philadelphia, with which the name of Rush is identified, in the hope that there where his active life was passed, and where a local memorial—the Rush Library, recalls his prominence in medical literature, there would be such generous response to your Committee's application, that they could go to other cities and places, with these first fruits, as earnest of what might be done everywhere.

Accordingly, the following letter was addressed in my own hand to 1,770 individuals in the city of Philadelphia:

Dear Doctor:—I beg to make, hereby, a final appeal to you, as a member of the medical profession in the city of Philadelphia, to contribute in behalf of the monument to be erected at the National Capital to the renowned patriot, Dr. Benjamin Rush, whom one of your

distinguished colleagues declares to have been "the greatest physician this country has ever produced."

The liberality with which Philadelphians contribute to this memorial of one of the greatest men to whom their city has ever given birth, will be evidence to other sections of the country of the esteem in which he is held by the people of his own home. I, therefore, most earnestly solicit you to inclose whatever you may feel disposed to give, whether check, banknote, or only a half dollar coin to be placed in the space in the card, in the within envelope, mailing it by return post as addressed. Should you have already contributed all you intend, or should you conclude to give nothing, will you kindly oblige the Committee by remailing the envelope, with enclosed card, that the latter may be used elsewhere? Very respectfully, for the Committee,

ALBERT L. GHON, Chairman.

But notwithstanding the request, "should you have already contributed all you intend, or should you conclude to give nothing, will you still kindly oblige the Committee by remailing the envelope, with inclosed card, that the latter may be used elsewhere?" and the fact that a stamped two cent envelope, bearing the Treasurer's printed address, was inclosed for the purpose, more than 1,600 were never returned. About 160 responded, making, with the 40 Philadelphians who had previously contributed, about 200 in all, or only 11 per centum of our profession in that city, who have exhibited any interest in this work. The cost of circular letter, cards, envelopes, stamps and folding, was \$95, the sum received \$150, a net gain of about \$55, a not very encouraging yield from so wide a field of operation as this million peopled city. Being a Philadelphian, the Chairman of your Committee was absolutely sure that we would get the half-dollar from at least 1,500 of the physicians addressed, but we have actually had only two responses from the doctors, who rejoice in *feminine* Christian names, who were positive would outdo their brother mediceos in liberality, as they do in all the other virtues.

In the light of this experiment, what then is to be done? Abandon the undertaking? Never! The fund already accumulated is a sacred trust, which can be diverted to no other purpose. There is no reason to apprehend that Congress will be less liberal than it has been to other projects of this kind; and if it donate a pedestal appropriate for such a statue as the medical profession of 106,000 members ought to erect, who will care to see a \$2,000 statue surmounting a pedestal costing \$25,000 as that of the McPherson statue did, or \$30,000 like that of the Garfield Monument?

The seed has been planted, and if properly cared for, it is bound to grow, and except you be dissatisfied with our tillings of the soil, we shall persevere through this and many summers more. It was forty-three years from its inception before the beautiful shaft of the Monument to Washington graced the twilight sky of the Potomac's banks, and though some of us can not hope to live until forty-three years shall have passed to

see the noble features of this great physician, whose name one need not hesitate to utter where that of Washington rings, upon the generation, which shall then visit the Army Medical Library and Museum, and find his effigy its greatest ornament; still while we may live, we pledge ourselves to labor to this end, so long as this Association shall honor us with its stewardship, aspiring to no other reward than to have succeeded in rearing in imperishable bronze or enduring stone, the figure of this great man, the model physician, the worthy citizen, the brave patriot, the gallant officer and broad-minded philanthropist, whom it is every American medical man's duty to reverently honor.

Why should Americans alone among the physicians of the world be indifferent to the glorifying of their illustrious dead? The Italians have within three years, erected at Milan, their monument to their patriot physician, Agostino Bertani, a splendid bronze statue by their great artist Vela, besides placing a marble tablet on the facade of his home in Genoa. The recent Congress of Russian medical men at Moscow determined, with great enthusiasm, to erect a monument as a national memorial to Nicolai Ivanecoitsh Pirogov, the Thinker-Surgeon, whose 71 years ended only ten years ago. A Committee of French physicians has just been organized, with Professor Fournier as its President, to do, as we have been so long striving, raise a monument to Philippe Ricord, and subscriptions are reported to be coming in spontaneously and rapidly. At Giessen in Ober Hesse, the scene of his famous labors, on the 23d of last July, a white marble statue was erected to Liebig, larger than life size and ornamented with figures, emblematic of science and culture, and another is projected at Halle, in Saxon Prussia, to Professor Richard von Volkmann, for which subscriptions are being gathered in America, and to which one American Association was on the point of contributing when a member pertinently suggested that at least an equal sum be contributed to the Rush Monument—so neither got any. A few days ago, the papers announced "contributions have been made already in and about Boston alone, by the following physicians," mentioning twenty names, aggregating \$245.00 for the *Virchow* Testimonial Fund. German physicians also liberally contributed to the life-size monument in bronze to the late Emperor Frederick II, erected in the quadrangle of the Protestant Hospital at Kaiserslautern.

Why should physicians alone in this country object to do public honor to their conspicuously great men in their profession? The New York Academy of Sciences projects a monument to Audubon, and eleven members at once subscribe \$100 each, and in a time, incredibly brief by comparison, \$2,733.50 are collected. The Print-

ers' Union is raising funds for a second colossal statue to Greeley, the first by Ward having long adorned the entrance to the Tribune Building in New York. Deaf-mutes planned and executed their monument to Gallaudet standing on Kendal Green, where you all will doubtless see it, and this since we have been talking about our statue. The members of the legal profession have their \$40,000 monument to Chief Justice Marshall at the approach to the Capitol, and Story's classic figure of Professor Henry stands near Smithsonian Institution as ours of Rush should stand near the National Medical Library and Museum. A few Brooklyn Protestants have built a monument to Beecher and in one night \$,700 were subscribed by Roman Catholics in New York City alone for the bronze statue of Archbishop Hughes at Fordham, \$20,000 being promised before the end of June.

But the list would be a long one were we to enumerate all the monuments that are proposed in this country. Your Committee have not advocated a monument to Rush as in rivalry to any other man. The monument is not to Rush the preëminent individual, as to Rush, the symbol of medical patriotism—the visible expression of the fact that the profession of medicine has contributed its great man—are of its great men, if you please—clothed in his professional garb, to uphold the standard of freedom in the foremost rank of the brave defenders of this new nation, and keep it there through all the strife of the Revolution. This Rush did, and later became one of the framers of that venerated instrument, on which the fabric of our nationality is built, the Federal Constitution. For this, he has been chosen to have a place among the sculptured heroes of that time, by whose silent presence, as by their fearless speech when living, they may illustrate to posterity what the purest patriotism and public spirit mean.

Your Committee appeal not for money only, but for collaborators—for volunteer associates, who will act with them as fellow Committee men, each in his own town, and by earnest personal effort aid them in their uphill work. The Association has already given them authority to add to their numbers, and your Committee now ask such of you as care to do this labor of love to give your names and addresses to their Secretary, Professor Rohé, with the assurance of your active coöperation. The Washington Monument was mired eleven years. The Rush Monument is making scarcely greater progress, but with your willing shoulders to the wheel, it will, in good time, soon make triumphant advance.

ALBERT L. GIHON,
Medical Director U. S. Navy, Chairman Rush Monument Committee.

On motion of Dr. H. D. Holton, Vermont, the report was received and the committee continued.

The Permanent Secretary read the report of the Treasurer :

TREASURER'S REPORT.

The treasurer has the honor to report that the balance in the treasury of the Association is \$9,427.21. The statement of the account will be published as usual in the columns of THE JOURNAL of the Association. All of which is respectfully submitted.

RICHD. J. DUNGLISON, Treasurer.

May 5, 1891.

On motion it was received and adopted.

Dr. L. D. Bulkley, New York, as Chairman of Section on Dermatology, etc., explained why no papers were on the programme for that Section, and moved that said Section be dispensed with.

As this would have required an amendment to the By-laws it was laid over. (Subsequently Dr. B. announced a meeting on Wednesday and the offer of sundry papers for that Section.)

On motion of Dr. C. G. Comegys, Ohio, it was

Resolved, That a committee of three be appointed by the President to consider the question of petitioning the next Congress to create a cabinet officer to be known as the Secretary of Public Health. The report of this committee to be presented on Thursday morning.

Committee—Drs. Comegys, N. S. Davis and T. G. Richardson.

On motion of Dr. L. Connor, Mich., it was

Resolved, That each Section at this meeting be requested to appoint a committee of three which shall meet at the Arlington, May 6, at 9 A.M., to consult as to the best measures for promoting the interests of the Sections, and the best means for securing the adoption of the same.

On motion of Dr. Dudley S. Reynolds, Ky., it was

Resolved, that the Supervising Editor of THE JOURNAL be instructed to secure stenographic reports of the proceedings of each of the several Sections of this Association, and that the Trustees be instructed to set apart a sufficient sum, not exceeding one thousand dollars, annually for that purpose. This resolution to take effect at and after the present session.

On motion of Dr. Chas. A. L. Reed, Ohio, it was

Resolved, That the American Medical Association hereby extends a cordial invitation to the medical profession of the Western Hemisphere to assemble in the United States in a Continental American Medical Congress.

Resolved, That the Committee on Nominations be and is hereby instructed to nominate one member for each State and territory, and one each for the Army, Navy, and Marine-Hospital Service, who shall constitute a committee which is hereby instructed to effect a permanent organization of the proposed Continental American Medical Congress and to determine the time and place at which the same shall be held.

Resolved, That the Committee on Nominations be and is hereby further instructed to report the nominations pursuant to the foregoing resolution at the general session on Thursday morning.

On motion a recess was taken to allow the States to assemble and select their members for the Nominating Committee.

Ala., J. C. Lagrange; Ark., J. M. Keller; Cal., Simmons; Conn., C. A. Lindsley; D. C., G. W. Cooke; Del., Wm. Marshall; Fla., W. E. Anderson; Ga., W. F. McRae; Ill., G. W. Webster; Ind., A. M. Owen; Iowa, G. F. Jenkins; Ky., W. H. Wathen; La., T. G. Richardson; Mass., A. P. Clark; Md., T. S. Latimer; Mich., H. O. Walker; Minn.,—; Miss., B. A. Duncan; Mo., I. N. Love; N. C., J. O'Hagan; N. H., Irving A. Watson; N. J., B. A. Watson; N. Y., John Cronyn; Neb., J. O. Carter; Ohio, C. A. L. Reed; Pa., E. Jackson; S. C., T. J. McKie; S. Dak., W. M. Kaull; Tenn., G. C. Savage; Tex., J. W. Carhart; Vt., D. C. Hawley; Va., W. L. Robinson; W. Va., G. A. Aschman; Wis., J. B. Whiting; U. S. Army,—; U. S. Navy, J. M. Flint; U. S. Marine-Hospital Service., J. B. Hamilton.

After some discussion on motion of Dr. Hamilton the committee was requested to meet at the Arlington at 7 this evening.

SECOND DAY, MAY 6.

The Association assembled at 10 A.M., President Briggs in the chair.

Prayer was offered by Rev. Father Richards, of Georgetown University.

The Chairman announced certain additional arrangements and invitations.

Dr. E. L. Shurly, Mich., read the *Address on Medicine* (see page 721).

The Librarian read his report, which was received and the appended suggestion adopted.

The amendment of Dr. Gihon being in order he again addressed the Association. After much discussion by Drs. Quimby, Scott, Davis, Vaughan, Bishop and Ross, on motion of Dr. J. H. Murphy, Minn., the amendment was finally laid upon the table.

The amendment offered by Dr. N. C. Scott, Ohio, to abolish the Committee on State Medicine, inasmuch as the work was done by the Section on State Medicine, was taken up.

Dr. A. N. Bell, N. Y., moved to amend by saying that this Section should nominate to the Association the persons to constitute the committee. Dr. N. S. Davis, Ill., offered an amendment which was accepted by Dr. Bell, that the nomination be changed in the laws from the Nominating Committee to the Section on State Medicine. This was unanimously adopted.

The amendment offered by Dr. E. A. Wood, Pa., to "omit the word Physiology from the title of the Section on Practice of Medicine, etc.," and form a new Section on Physiology and Dietetics, was almost unanimously adopted.

The amendment offered by Dr. J. C. Culbertson, Ohio, being up, Dr. R. Harvey Reed, Ohio, offered to amend by substitute, when Dr. N. S. Davis, Ill., offered the following:

Resolved, That the proposed amendments concerning the recognition of State and other medical societies as

branches of the American Medical Association be referred to a committee of five to be appointed by the President, and that said committee shall confer with the State and other societies concerning the desirability of such change, and if desirable, as to the collection or payment of dues and other details necessarily involved in the proposed change, and report at the next annual meeting.

This was unanimously adopted.

The amendment of Dr. W. H. Daly, Pa., making the permanent members equal in all rights to delegates was, on motion of Dr. J. E. Woodbridge, Ohio, laid on the table.

The following from the State Medical Society of West Virginia was read by the Permanent Secretary:

To the American Medical Association:

At the annual meeting of the State Medical Society of West Virginia, June 11, 1890, a committee was appointed to memorialize the State Societies of adjoining States, and the American Medical Association, upon the subject of the relations of contract surgeons of the different railroad systems to the general profession, and to ask these Societies to consider how far the rules adopted by railroad corporations for the government of the surgeons in their service, infringe upon the rights of the profession at large, as set forth in the Code of Ethics of the American Medical Association. It is well known that large bodies of men are in the employ of these corporations; that these men live in widely scattered communities, and that these corporations have established systems of contract surgeons to attend to employes and passengers injured by accidents occurring while in their employ, or care as passengers. It is also well known that these corporations have adopted rules for the government of these surgeons and of those injured, directing that these surgeons assume entire charge of such employes or passengers, when injured, regardless of the rights of any outside medical man who may have been summoned, and is in attendance upon such persons prior to the arrival of the company's surgeon, even if, in addition, the physician first in attendance be the family and personal attendant of the party injured, and in most cases have served a notice to this effect on the general profession. For instance: Section 4 of General Order No. 2 of the Baltimore and Ohio Railroad Relief Department, says: "Upon the arrival of the company's surgeon and taking charge of the patient, the called surgeon, if one has been called, shall be distinctly notified by the company's surgeon, and by the officer in charge, that the company will be no longer responsible for his attendance or service, and that they are no longer required." In Section 5 of the same company's instructions, it says: "Company's surgeons, upon arriving at the place of accident, will take exclusive charge of the case, and entirely relieve any surgeon, other than the one under contract with the company, from further care or attendance. The called surgeon shall be distinctly notified by the company's surgeon and the officer in charge, that the company will be no longer responsible for his attendance or services. Should the patient prefer the services of a surgeon other than the one provided by the company, it must be distinctly understood by the patient and the said surgeon that neither the company nor the Relief Association will be responsible for the services rendered."

To the majority of the State Society this appears to place the physicians in direct conflict with Section 6 of Article 5 of the Code of Ethics, and causes infringements upon the rights of physicians first called, who charitably respond to such calls, while knowing the rules of the company, because of the urgency of the case.

Again, in the establishment of these systems of contract surgeons, we believe the practice of accepting passes as compensation, in lieu of the regular fees customary to

the profession, is detrimental to the best interests of the profession, by lowering the standard of the values of surgical services, and further demoralizing, because it gives to these wealthy corporations services at far less rates than the profession charges to individuals for like services, and further, that these corporations come under that part of Section 3 of Article 1, relating to the duties of the profession to the public and *vice versa*, which exempts institutions endowed by rich individuals, societies for mutual benefit, for the insurance of lives, etc., from the privileges set forth in Section 1 and Section 2 of the same article.

Further, it seems to your memorialists, that if members of the profession are left to make contracts to furnish an unlimited service of the kind required, for passes, and in some cases small fixed money payments, with these large corporations, without affecting their ethical standing, all stigma of unprofessional or unethical conduct should be removed from those of the profession who contract with private individuals to furnish medical or surgical services, including medicines, by the year or month, at fixed sums.

In conclusion, we hope your Society will consider this subject, and if agreeing with us that this is an evil, join us in bringing this to the American Medical Association for it to decide what action, if any, is proper under the circumstances.

The foregoing is respectfully submitted in behalf of the Committee appointed as before stated.

WESLEY H. SHARP, M.D.,
Chairman of Committee.

Parkersburg, W. Va., November 28, 1890.

Dr. J. E. Woodbridge moved to refer to a committee of one from each State Society in affiliation with this Association.

Dr. R. Harvey Reed moved to amend by saying "two, one of these to be a railroad surgeon." Thus both sides could be heard.

After discussion by Drs. Quimby and Scott, on motion of Dr. Adamson, Kentucky, the amendment was laid on the table. The original motion was then adopted.

Dr. Gihon moved that the address of the President of the Association shall be delivered at the general session on Wednesday.

On motion of Dr. X. C. Scott, this was laid on the table.

THIRD DAY, MAY 7.

The President called the Association to order at 10 A.M.

Prayer was offered by Rev. W. A. Bartlett, D.D.

The Chairman of Committee of Arrangements announced the business of the day.

The Permanent Secretary read

THE ADDITIONAL REPORT OF THE BOARD OF TRUSTEES.

The Board of Trustees of the American Medical Association respectfully submit the following report, in regard to the financial affairs of the Association, and of THE JOURNAL for the year ended March 31, 1891. THE JOURNAL has been published and regularly issued at its place of publication, and now has a weekly edition of 5,450 copies, of which 4,048 copies are supplied

to members, and the remainder to subscribers, advertisers, exchanges, etc.

The cost of publication and editorial expenses for the year has been \$23 337.97. The receipts at the office from all sources amount to \$14,464.59. Amount drawn from treasury of the Association, \$8,909.38, leaving a balance in the hands of the Board \$762.40. At the same time there was in the hands of the Association Treasurer, \$4503.39. Making a total, March 31, 1891, available, of \$5,265.79. Full detailed exhibit of receipts and expenditures accompany this report, as reported by the Treasurer.

The editorial management of THE JOURNAL has continued as heretofore under the direction of the Board, no editor having been appointed, the resident member of the Board acting in the capacity of supervising editor, and employing such editorial writers as in his judgment the occasion required.

The Association having practically passed upon the question of location, it is still the opinion of the Board that a suitable building for THE JOURNAL Office should be secured as soon as there are sufficient funds available for that purpose.

In conclusion your Board respectfully submit that they have done their best to publish as good a Journal as the funds would permit, and they have pleasure in stating that the available resources of THE JOURNAL are now such that their intention is for the next and succeeding years, to raise the professional and literary standard of its editorial department to the equal of any.

JOHN B. HAMILTON, P. O. HOOPER,
Secretary, President.

On motion it was received and adopted.

Dr. W. H. Wathen, Chairman, read the report of the Committee on Nominations:

The Nominating Committee begs to make the following report:

For President, Dr. H. O. Marcy, of Boston, Mass.; First Vice-President, Dr. Willis P. King, of Missouri; Second Vice-President, Dr. Henry Palmer, of Wisconsin; Third Vice-President, Dr. W. E. B. Davis, of Alabama; Fourth Vice President, Dr. W. E. Taylor, of California; Treasurer, Dr. Richard J. Dungleison, of Pennsylvania; Secretary, Dr. W. B. Atkinson, of Pennsylvania; Librarian, Dr. Geo. W. Webster, of Illinois; Trustees, Dr. W. Dawson, of Ohio, Dr. W. W. Potter, of New York, Dr. J. H. Rauch, of Illinois.

Judicial Council—Dr. H. O. Walker, of Michigan, to fill vacancy; Dr. W. T. Bishop, of Pa.; Dr. G. L. Porter, of Conn.; Dr. Jas. F. Hibbard, of Ind.; Dr. C. H. Hughes, of Mo.; Dr. Hunter McGuire, of Va.; Dr. A. M. Owen, of Ind.; Dr. H. D. Didama, of New York.

Place of meeting 1892—Detroit, Mich.; time of meeting first Tuesday in June.

Chairman of Committee of Arrangements, Dr. H. O. Walker, Detroit, Mich.; Address on Gen-

eral Medicine, Dr. J. S. Cain, of Tennessee; Address on General Surgery, Dr. John B. Hamilton, of Washington, D. C.; Address on State Medicine, Dr. C. A. Lindsley, of Conn.

Committee on State Medicine—J. Cochran, Ala.; T. E. Murrell, Ark.; Luke Robertson, Cal.; T. H. Crothers, Conn.; J. R. Logan, N. Dak.; R. G. Ellegood, Del.; S. C. Adams, D. C.; R. J. Nunn, Ga.; J. P. Wall, Fla.; Harold N. Moyer, Ill.; J. F. Hibbard, Ind.; H. Wright, Iowa; W. L. Schenck, Kans.; H. Horace Grant, Ky.; C. B. Belt, Mass.; A. J. Stone, Minn.; W. F. Breakey, Mich.; W. Johnson, Miss.; Young H. Bond, Mo.; Thos. Wood, N. C.; Alfred F. Carroll, N. Y.; G. P. Conn, N. H.; Goldberth, Neb.; R. Harvey Reed, O.; L. F. Flick, Pa.; A. A. Moore, S. C.; J. P. Walker, Tenn.; R. M. Swaringen, Tex.; J. H. Hamilton, Vt.; R. N. Martin, Va.; A. F. Stifel, W. Va.; Geo. M. Steele, Wis.; J. R. Matos, La.; G. S. Beardsley, U. S. A.; W. Wyman, U. S. Marine-Hospital Service.

Committee on Nematology—J. T. Searcy, Ala.; G. W. Hudspeth, Ark.; W. K. Lindsley, Cal.; G. R. Shepperd, Conn.; L. P. Bush, Del.; J. M. Toner, D. C.; J. D. Fernandez, Fla.; G. W. Bailey, Ga.; E. P. Cook, Ill.; J. L. Thompson, Ind.; Brown, Iowa; W. F. Sawhill, Kan.; John G. Brooks, Ky.; Asa S. Potter, Mass.; R. C. Levensaler, Me.; A. B. Anker, Minn.; W. B. Alvord, Mich.; B. F. Kettel, Miss.; J. D. Griffith, Mo.; W. M. Knapp, Neb.; H. Capehart, N. Dak.; S. Jacobsen, N. Y.; J. J. Berry, N. H.; S. S. Thorne, Ohio; Jacob Price, Pa.; F. P. Porcher, S. C.; F. M. Sim, Tenn.; W. H. Wilks, Tex.; E. R. Camden, Vt.; L. E. Harvey, Va.; Dr. Wilson, W. Va.; H. V. Faville, Wis.; Jas. M. Flint, U. S. N.

Committee of Pan American Medical Congress—R. F. Saunders, Ala.; Ed. Bentley, Ark.; W. R. Cluness, Cal.; C. A. Lindsley, Conn.; E. M. Darrow, N. Dak.; C. H. Richards, Del.; D. W. Prentiss, D. C.; C. R. Oglesby, Fla.; James McFadden Gaston, Ga.; N. S. Davis, Ill.; A. M. Owen, Ind.; H. B. Crowley, Ia.; J. P. Minney, Kan.; J. N. McCormack, Ky.; S. T. Chaillé, La.; Augustus P. Clarke, Mass.; P. H. Millard, Minn.; C. H. Leonard, Mich.; Dr. Kendall, Miss.; I. N. Love, Mo.; Jno. Cronyn, N. Y.; Irvin A. Watson, N. H.; R. C. Moore, Neb.; Chas. A. L. Reed, Ohio; Wm. Pepper, Pa.; R. A. Kinloch, S. C.; J. R. Buist, Tenn.; J. S. Carhart, Tex.; Henry W. Holton, Vt.; J. S. Wellford, Va.; Jas. H. Brownfield, W. Va.; Jas. P. Reed, Wis.

WM. H. WATHEN, Secretary.
Chairman.

The announcement having been made that Dr. S. C. Wood, of N. Y., nominated for Judicial Council, was dead, on motion the name of Dr. H. D. Didama, of N. Y., was substituted.

Dr. H. O. Walker, of Mich., moved to strike

out Hot Springs, Ark., as the place of meeting and insert Detroit, Mich.

After some discussion, Dr. Simmons, of Cal., moved to insert San Francisco, Cal. On motion of Dr. Caren, Ill., this was laid on the table.

Dr. Pawling, Neb., moved to insert Omaha, Neb. This was laid on the table.

A motion of Dr. J. M. Keller, Ark., to recommend the whole report was laid on the table.

Detroit, Mich., was then adopted as the place of meeting by a vote of 143 to 105.

Dr. C. W. Brown having named Dr. W. W. Potter, N. Y., as ineligible for Trustee by reason of non-affiliation with the Association, by the suggestion of Dr. N. S. Davis, Ill., the matter was referred to the Judicial Council.

The whole report on nominations as amended was then adopted by a large vote in favor.

Dr. X. C. Scott, Ohio, named Dr. H. O. Walker, of Mich., as Chairman of the Committee of Arrangements, in place of Dr. J. M. Keller, of Ark. Another nominee having been named as ineligible, Dr. I. N. Love, Mo., demanded the objection.

A motion by Dr. F. Woodbury, Pa., to refer this also to the Judicial Council was negative.

The place of meeting requiring it, on motion of Dr. N. S. Davis the time was changed from first Tuesday in May to June.

Dr. J. M. Mathews, Kentucky, read the *Address in Surgery*. (See page 654.)

Dr. W. F. Horner, U. S. A., Va., offered the following which was adopted:

WHEREAS, The Code of Ethics of this Association declares, Art. ii, "The benefits occurring to the public directly and indirectly from the active and unwearied beneficence of the profession," but—since its original organization has never considered any provision for the widows and orphans of deceased Fellows.

WHEREAS, The success in the formation of Medical Aid Associations in our large cities and in one or more of the States of our Union has proved a practical scheme to succor the families of many a brother physician, stricken down in the midst of apparent success, who otherwise would be unprovided for.

Therefore, be it resolved, That a Committee be appointed by the President of this Association to consider and report upon the expediency and practical advantages of a "Section of Benevolence" in connection with the work and aims of the Association, which seeks to ameliorate not only human suffering and to cure disease, but to enlarge the influence of the profession by showing regard for the needs of the widows and orphans of our deceased brethren.

The Permanent Secretary read the report of the Committee on a Secretary of Public Health.

REPORT OF THE COMMITTEE ON THE QUESTION OF A CABINET APPOINTMENT OF A SECRETARY OF PUBLIC HEALTH.

The committee appointed to consider the question of petitioning the next Congress on the creation of a Medical Secretary of Public Health, beg leave to present their views, and a resolution, for your adoption.

The undersigned believe that the time has come when the medical profession is under solemn obligation to seek all the places and positions in the State that will promote a higher degree of public usefulness than we now enjoy. There is no other profession that excels ours in positive efficiency to sustain public order, comfort and virtue. We possess vast capacity for the direction of society and promotion of human happiness. There is nothing in the body or mind of man that is not in the purview of medical practice. We are laboring unceasingly to assuage the ills of individuals and communities.

At this time the profession is manifesting, in a higher spirit than ever before, the purpose of suppressing contagious and infectious diseases. This work was begun by Jenner a century ago, and the awful scourge of small pox has been stamped out wherever vaccination is compulsory. We have now assumed the stupendous task of suppressing all the terrible diseases that desolate the world.

There are infectious and epidemic diseases that move about the world, almost periodically, which we need not particularize; they are often the products of the squalor and wretchedness of peoples, and are spread far and wide about the lines of commerce. These invisible foes infest the air, the waters, and the very food we eat. From the grosser foes of human health, cold, heat and tempest, men have power to defend themselves; but in regard to these invisible agents of suffering and death, for want of higher knowledge, they are largely helpless. In their despair they turn to medical science for help, unwilling to trust in the brute law of the survival of the fittest.

Governments, in a certain way, have always done something to aid medical men in their endeavors to stay the pestilence and save the afflicted; but never adequately. They have generally refused to make the medical profession a permanent integral part in the administration of the State; that is, in the making and the execution of sanitary laws.

What laws are necessary for the full employment of our beneficent profession? We reply: those that relate to the social state of the people for the prevention of disease. They comprehend an amplitude and purity of water supply, proper dwellings for the lower classes without overcrowding or deficiency of light and air, unadulterated food, complete drainage and disinfection of excrement, the preservation of rivers and smaller streams of water from pollution, the regulation of the hours of labor, the protection of childhood from the imposition of toil, and their proper education, cleanliness of streets and planting of shade trees for protection from intense solar heat, and the decomposing power, by their leaves, of deleterious gases and miasms; the establishment of

public baths, the operations of quarantine to prevent invasion of pestilence and landing of immigrants with diseases dangerous to others, the isolation of persons attacked with infectious disease and the disinfection of localities, the construction and management of general and special hospitals, the care of the sick poor in their homes, the prevention of consanguineous marriages and of those who have destructive types of constitution, the warning of society of the evil consequences of abuses of the brain, the material basis of consciousness, whereby a free will is impaired and the sufferers become irresponsible and are often mentally ruined; and, lastly, the regulation of those two giant evils of civilization, intemperance and prostitution.

We affirm that all the measures for public relief on these important subjects should be under the guidance of medical men.

It is not the mere knowledge of the human frame as a diseased thing, or a mechanism, that should give us highest consideration in the State, but rather our capacity to prevent sickness by securing the proper administration of the laws of health. At present we occupy positions but little better than mere advisers to authoritative bodies; our soundest suggestions are at the mercy of ignorance and prejudice of uninformed legislation. The medical profession holds itself ready not only to diminish the fearful destruction of life now going on, but ultimately to destroy the contagia that cause it. It is now becoming generally known that infectious diseases and toxic elements are disseminated in food. An infectious disease in the family of a dairy-man may be as widely diffused as his distribution of milk. The pollution of streams of water and wells about towns, villages and farmers' homes, we know definitely, subject many families to tedious and destructive diseases, which our wise sanitation can overcome, if we possessed the power to so act. It will be well for the State when the medical profession is represented in the councils of the Nation as weightily as can be assumed by official places and conferred dignities.

It seems to your committee that this is a propitious period for entering upon a forward movement that will place our profession in its true relation to public affairs; and that the first and most important step to obtain this end, is to appeal to Congress to create the office of a Medical Secretary of Public Health.

The latest addition to the Cabinet of the President is that of Secretary of Agriculture, and already a great impulse to higher intelligence has been inaugurated by the practical farmer who is at its head.

What part will a Secretary of Public Health play, when he takes his place in the Cabinet? Will he be a mere figure head, or will he be able to fulfil important duties to the State? The an-

swer is, he will, by virtue of his position, justly form an integral part of the councils of the State; he will represent the medical consciousness of the Nation, and be one to whom we all can look for the exploitation of measures that will direct continuous scientific and collective investigation, in regard to endemic as well as epidemic diseases that afflict the people; he will be able to coöperate, coördinate, unify and utilize, in the discharge of his duty, all the work of State Boards of Health, now so well organized in various States of the Nation; and these in turn will find themselves strongly reinforced by the example and authority of a great central officer who will be equal in function and opportunity with the other members of the President's Cabinet.

It must be acknowledged that the Government, through the operations of the Surgeon-General of the Army, Navy, and Marine Department, and by the action of the Secretary of State, has authorized most liberal expenditures for the establishment of the National Medical Library and Museum, the issue of the incomparable Index Medicus, and for original researches at home and abroad on the origin and nature of the fearful epidemic brought to our shores by immigrant and other ships. Honorable mention is due to Surgeon George M. Sternberg, of the U. S. Army, for his investigations in regard to yellow fever, and to Dr. E. O. Shakespeare, of Philadelphia, for his study in India and Spain of Asiatic cholera under the patronage of Secretary Bayard; of the establishment of scientific posts by the Surgeon-General of the Marine-Hospital Service at Dry Tortugas for the special and continuous investigation of the causes of yellow fever, and the Bacteriological Laboratory attached to U. S. Marine-Hospitals at New York, and to the Surgeon-General of the Navy for the Navy Museum of Hygiene, in whose laboratories chemical analyses of water and food, as well as bacteriological research, are constantly going on.

The more recent enactment of the Inter-State Quarantine Act as, truly, says Dr. Walter Wyman, of the Marine-Hospital Service in Washington, marks an epoch in the history of national health legislation. The Conventions in the quarantine service, in the last few years have secured great progress towards a uniformity in quarantine laws in time of epidemic visitation. Also an extensive correspondence has been established by the Marine-Hospital Surgeon with our Consuls every where, so that our quarantine service is constantly advised of the prevalence of epidemics in countries with which we are closely connected in a commercial way.

A Secretary of Public Health, by the aid of associated departments, can be constantly informed of the prevalence of epidemic disease in all the localities of our country, and could give public warning to all who might be exposed to

them, and thus the people will be assured that a competent Minister of State surveys the whole field. He will also be able to render important assistance to Army, Naval and Marine Surgeons, by the fact that their respective Cabinet officials cannot be in professional touch with them, as would be a Secretary of Public Health.

We can all recall what this Association accomplished for the elevation in rank and pay of the Army and Naval Surgeons from the lower plane on which they stood. It was not through the active support of the President or his Cabinet; but it was only due to the appeal of this Association directly to Congress. This same effort is now being made through the British Medical Association to obtain higher rank to the medical arm of the Army and with fair hopes of success.

The question of higher medical education must also occupy a Secretary of Public Health. We all know the great progress on this line that has been made in the last twenty years. A more thorough preliminary education is now demanded by our best medical schools for matriculation; moreover, diplomas no longer give in some States a right to practice medicine. We need uniform laws on this subject in all the States, and such legislation can be greatly promoted by a Cabinet officer. If it be possible to compass this there should be a universal law that no man or woman or special sect of physicians, regular or irregular, and no specialist shall lawfully practice medicine or surgery until they have given satisfactory proof before a Board of Examiners that they have had an adequate training in medicine and surgery. In this way it is reasonable to expect that at length a race of Physicians will be developed who will secure universal respect because they will be regarded as amongst the best educated persons in a community.

The only true way of suppressing quackery among regular or irregular practitioners is by higher education. Thus the medical profession has gradually unfolded itself in the procession of the ages, and will continue to grow stronger and brighter with the progress of civilization.

It is perfectly plain that a Medical Secretary of State will be as fully employed as any other officer of the State, and his duties will increase all the time. It is a well-known biological law, that organs grow to conditions of capacity as they are continuously exercised. The muscular system and all the organs thus increase up to a condition of status; so will the functions of the proposed officer grow broader and stronger in adaptability to the needs of the people and the greater efficiency of our profession, also to this Association, which, whatever it may have achieved, is still upon the threshold of its beneficent mission to our country.

His annual reports will command universal at-

tention, as they will contain everything of importance in medical progress.

Finally, the unification of all things relating to public hygiene in the States through the aid of State Boards of Public Health, will give a solidity and usefulness to the practice of medicine never hitherto attained.

We ask for the adoption of the following resolution:

Resolved, That the President of this Association appoint a committee of five to memorialize Congress, at its next session, on the subject of creating a Cabinet officer to be known as the Medical Secretary of Public Health.

All of which is respectfully submitted.

C. G. COMEGYS, Ohio.

T. G. RICHARDSON, Louisiana.

N. S. DAVIS, Illinois.

On motion of Dr. J. F. Hibberd, Indiana, the report was received and the resolution was adopted.

Committee—Drs. C. G. Comegys, Ohio; J. C. Culbertson, Ohio; W. T. Briggs, Tennessee; J. F. Hibberd, Indiana; and Wm. B. Atkinson, Pennsylvania.

Dr. I. N. Quimby, New Jersey, offered the following amendment:

WHEREAS, More time is needed in the various Sections to enable the same to get through with their generally *overburdened* duties; and whereas one of the morning sessions, say *Thursday*, could be omitted without any detriment to the general good of the Association, I hereby offer the following amendment to the by-laws: That *Thursday morning's* general session be *omitted* and the time be devoted to moving Sectional work.

Laid over under the rules till next year.

Dr. Quimby offered the following, which was adopted:

WHEREAS, About \$1,500 or \$2,000 has been contributed towards the Rush Monument Fund, which amount is on deposit without interest, therefore be it

Resolved, That this Association direct its Chairman, Secretary, and Treasurer of said fund to be constituted a committee of investment, who are hereby empowered and directed to invest said sum at interest in *good first mortgage*, real estate security, or other *first-class securities*.

VOTE OF THANKS TO THE EDITOR AND BUSINESS MANAGER.

Dr. R. Harvey Reed, Ohio, offered the following:

WHEREAS, THE JOURNAL has been successfully and satisfactorily conducted during the past financial year, enabling the Treasurer of the Association to report the largest balance in the history of the Association, of over \$5,000, being an increase of nearly 100 per cent. over the preceding year; and

WHEREAS, This success has been largely due to the united and energetic efforts of our Editorial and Business representatives at Chicago; be it therefore

Resolved, That the thanks of this Association be, and are hereby given Dr. John H. Hollister, the Supervising Editor, and Mr. J. Harrison White, the Business Manager; and be it further

Resolved, That this Association cordially recommend to its Board of Trustees the retention of the services of these gentlemen for the present year.

A motion by Dr. Kendall, Illinois, to lay this on the table was negatived.

After much discussion, on motion of Dr. H. D. Holton, Vermont, it was agreed that nothing in this action should be construed as mandatory upon the Board of Trustees.

Dr. Pancoast, of Pennsylvania, made the point of order, with all respect to the President and every faith in the honor of the delegates to the Association, that from a parliamentary standpoint, the President and the Association cannot tell whether the vote just passed was a legal one according to our By-laws, as the roll of delegates was not called.

President Briggs replied, that the decision of the chair could be appealed from.

Dr. Pancoast declined to do so, saying that he did not wish to consume time, and as the Permanent Members are not allowed to vote, he would not appeal to a meeting composed only of delegates.

Dr. J. S. Marshall, Chairman, read the
REPORT OF THE COMMITTEE ON CONFERENCE
OF SECTIONS.

Your Committee of Conference of Sections appointed in consonance with the resolution of Dr. Connor, passed by the Association on Tuesday morning, beg leave to report as follows: That owing to the limited time at their disposal, and the greatness of the task imposed upon them, they have been unable to perfect a plan for the improvement of the scientific work of the Sections and the strengthening of the weak ones, that seemed at all satisfactory to your Committee. As a beginning, however, in this direction, your Committee recommend the passage of the following resolutions:

Resolved, That a committee of five be appointed by each Section to supervise and revise papers submitted to the Sections, and to perform such other duties as may be directed by the Section; of this Committee the Chairman and Secretary of the Section shall be *ex officio* members.

Resolved, That the Committee of Conference of Sections ask to be continued, that the work already begun may be further perfected.

On motion, the report was received and the resolutions were adopted.

Dr. J. G. Kiernan and Dr. H. St. Clair Ash, Pennsylvania, offered the following amendment to the By-laws:

Resolved, That the Committee of Necrology be abolished, and the work of that committee be made the duty of the editor of THE JOURNAL.

Dr. W. W. Parker, Virginia, offered the following:

Resolved, That the next meeting of this Association consider the propriety of electing a practical chemist of well-known skill and high character, who shall as soon as may be begin the analysis of the various nostrums now on the market and that may hereafter appear, and publish the result in THE JOURNAL of the Association, or in an independent journal under the name of *The Moral Detective*, or *Medical Examiner*, or such other title as the Association may select, and for his compensation a tax of fifty cents per annum shall be assessed upon each member of

this Association. The chemist so elected shall have the privilege of issuing the journal to other persons, not members of this Association, upon such terms as he may think proper.

On motion this was laid on the table.

On motion the Association then adjourned.

(To be concluded.)

MISCELLANY.

A WORD TO AURISTS.—An invitation is given to all aural surgeons to send a brief statement of their views and experience concerning the operation for excision of the drum head or ossicles. A prompt contribution to this consensus of opinion, for early publication, will be appreciated. Address S. S. Bishop, 70 State St., Chicago.

Other journals are invited to insert this notice.

THE BRITISH GYNECOLOGICAL SOCIETY.—The meeting of this Society will be held at Newcastle-on-Tyne on June 18 and 19, under the presidency of Dr. Robert Barnes. The meetings, which will be held in the College of Medicine, will be open to all registered medical practitioners. A public dinner will be held on the evening of the first day. All communications should be addressed to the General Local Secretary, R. C. Bennington, M.B., 59 Osborne Road, Newcastle-on-Tyne.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 2, 1891, to May 8, 1891.

First Lieut. Julian M. Cabell, Asst. Surgeon, is relieved from duty at Ft. Niobrara, Neb., and will report in person to the commanding officer, Ft. Buford, N. Dak., for duty at that post, relieving Major Valery Havard, Surgeon. Major Havard, on being relieved by Lieut. Cabell, will report in person to the commanding officer, Ft. D. A. Russell, Wyo., for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

Capt. Guy L. Edie, Asst. Surgeon, is relieved from duty at Ft. Douglas, Utah, and will report in person to the commanding officer, Ft. Niobrara, Neb., for duty at that post, relieving Major T. E. Wilcox, Surgeon. Major Wilcox, on being relieved by Capt. Edie, will report in person to the commanding officer, Ft. Huachuca, Ariz., for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

Capt. William P. Kendall, Asst. Surgeon, is relieved from duty at Ft. D. A. Russell, Wyo., and will report in person to the commanding officer, Ft. Douglas, Utah, for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

Capt. Walter D. McCaw, Asst. Surgeon, is relieved from duty at Ft. McPherson, Ga., and will report in person to the commanding officer, Camp Pilot Butte, Wyo., for duty at that post, relieving Capt. George E. Bushnell, Asst. Surgeon. Capt. Bushnell, on being relieved by Capt. McCaw, will report in person to the commanding officer, Ft. McKinney, Wyo., for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

First Lieut. Joseph T. Clarke, Asst. Surgeon, is relieved from duty at Ft. Riley, Kan., and will report in person to the commanding officer, Camp Poplar River, Mont., for duty at that station, relieving First Lieut. Jefferson D. Poindexter, Asst. Surgeon. First Lieut. Poindexter, on being relieved by Lieut. Clarke, will report in person to the commanding officer, Ft. Niobrara, Neb., for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

Capt. Louis A. La Garde, Asst. Surgeon, is relieved from duty at Ft. Assiniboine, Mont., and will report in person to the commanding officer, Ft. McHenry, Md., for duty at that post, relieving Major Charles B. Byrne, Surgeon. Major Byrne, on being relieved by Capt. La Garde, will report in person to the commanding officer, Ft. Assiniboine, Mont., for duty at that post. Par. 14, S. O. 102, A. G. O., May 5, 1891.

Major Joseph B. Girard, Surgeon, is relieved from duty at Alcatraz Island, Cal., and will report in person to the commanding officer, Benicia Bks., Cal., for duty as Post Surgeon at that post, and Attending Surgeon at Benicia Arsenal, Cal., relieving Major John H. Janeway, Surgeon. Major Janeway, on being relieved by Major Girard, will report to Philadelphia, Pa., and assume the duties of attending surgeon and examiner of recruits in that city, and in addition to his duties in Philadelphia, will perform the duties of Post Surgeon at Frankfort Arsenal, Pa. Par. 14, S. O. 102, A. G. O., May 5, 1891.

By direction of the Acting Secretary of War, par. 5, S. O. 24, January 29, 1891, from this office, granting Major Julius H. Patotzki, Surgeon, six months' leave of absence, is so granted, as to grant leave on surgeon's certificate of disability. Par. 15, S. O. 99, A. G. O., May 1, 1891.

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ADDRESSES.

THE ADDRESS ON MEDICINE.

Delivered at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY E. L. SHURLY, M.D.,
OF DETROIT, MICH.

Mr. President and Members:—As it would be improper on this occasion to attempt even a mention of the vast number of interesting and instructive ideas and observations connected with the science and practice of medicine, which has been evolved during the past year, I shall present for your attention only some points bearing on

THE RELATION OF MICROORGANISMS AND TOXINES TO THE SO-CALLED ZYMOTIC OR INFECTIOUS DISEASES,

and as this subject in its various ramifications is too vast for a detailed consideration, I must of necessity confine myself, in great measure, to a generalization upon the biological and chemical features involved. While laboratory work has done perhaps more than any other branch of science toward clearing up many vexed questions about physiological and pathological activities, yet to be of lasting value and guidance it must agree with general and clinical observations. While this has been the case more often than otherwise, yet there are instances where laboratory observations and clinical data have crossed swords!

Before proceeding to an examination of the topics mentioned, it will be necessary for us to keep in mind the fact, that the organized animal body is composed of, and is under, the operation (the same as other bodies) of the three elements of the Universe, Ether, Energy and Matter, under various forms and methods of combination; to which may be added what is known as "Vital Force," which some scientists regard as "energy of position" from the combustion of food. Also that this fact applies to a condition of disease as well as health! For in Somatic death, even, *i. e.*, death of the whole body, there are certain elemental tissues which die first, such as the blood and parenchymatous tissue, while certain other tissues, such as the epithelial, resist for a time, at least, the destructive or resolving power of Kinetic

Chemical energy. In fact, the only difference between life and death from a physical point of view, consists of changes in the molecular or atomic arrangements under the direction of chemical, calorific, or electric energies. For *matter and energy* are indestructible! As Shelley says, "I change, but I cannot die."

To understand at all, the range of pathology and pathological chemistry,—to which we must undoubtedly look for the solution of many of the problems of the present day, it will be proper to take a brief survey of physiology and animal chemistry, which may be considered the foundation stones of our art.

To sum them up according to Mills, Foster and Kirk, we have

The Proximate Principles, which are:

Organic	{	Nitrogenous—Proteids.
		Non-nitrogenous { Certain Crystalline bodies. Sugars (Carbo-hydrates). Fats (Hydro-carbons).
The Inorganic	{	Mineral salts. Water.

The proteids are the chief constituents of living tissues, including the blood and lymph.

The molecule is highly complex, consisting of a great number of atoms, and is formed of the elements C.H.N.O.S. and P., although some chemists think that we are still in ignorance of its exact molecular constitution. The proteids are amorphous and non-diffusible, excepting the peptones. They are soluble in strong acids and alkalies with change of properties and constitution. In general, they are coagulated by alcohol, ether and heat. They may be classified into:

Native Albumins: Egg-albumin, serum-albumin.

Derived Albumins (albuminates): Acid-albumin, alkali-albumin, including syntonin (from muscle), para-peptone, and casein.

Globulins: Globulin, paraglobulin, fibrinogen, myosin, vitellin, globin.

Fibrin: Coagulated proteids.

Peptones: By the decomposition of proteids (albumin) by digestion with pepsin we obtain: Antialbumose, anti-peptone; and with trypsin, hemi-albumose, hemi-peptone, leucin and tyrosin.

By decomposition with acids, we get with hydrochloric acid: antialbumate, antialbumid, hemi-albumose and hemipeptone.

And with *sulphuric acid* we get antialbumid, hemialbumose, hemipeptone, leucin and tyrosiu, and lardaceiu (an amyloid substance).

The nitrogenous, non-crystalline bodies allied to proteids are: mucin, chondrin, gelatin (or gluten), elastin, keratin, nuclein, chitin.

Carbo-hydrates (Sugars): Dextrose, maltose, lactose, inosit, dextrin, glycogen, tunicin.

Fats, Fatty Acids, etc.: Formic acid, propionic acid, acetic acid, butyric acid, valerianic acid, caproic acid, capric acid, caprylic acid, laurostearic acid, myristic acid, palmitic acid, stearic acid.

The Oleic (Acrylic) Acid Series: Oleic acid.

The Neutral Fats: Glycerin.

The Glycolic Acid Series: Glycol.

The Lactic Acids:

Bibasic Acids (Oxalic Acid Series): Oxalic acid, succinic acid.

The complex nitrogenous fats (which are obtained from nerve tissues) such as lecithin, glycerin, phosphoric acid, protagon, neurin, cerebrin.

The Series of Bile Acids, etc.: Cholic (or cholic) acid, glycocholic acid, taurocholic acid, and cholesterin; which has been said to be the only free alcohol formed in the body.

The Bile Pigments: Bilirubin, biliverdin, cholelletin, hydrobilirubin.

The Pigments of Urine: Urobilin, uroerythrin.

The Indigo Series: Indican, indigo, indol, skatol.

The Nitrogenous Metabolites: Urea, urea nitrate, uric acid, creatin, creatinin, allantoin, hypoxanthin (sarkine), xanthin, carmin, guanin, kynurenic acid, glycine, taurin, leucin, asparagin, amido succinamic acid, aspartic acid, glutaminic acid and cystin (an amido acid).

The Acids of the Benzine, or Aromatic Series: Benzoic acid, hippuric acid, phenol, tyrosin.

In addition, we must include the leucomaines, for the discovery of which we are chiefly indebted to Gautier.

According to Vaughn and Novy there are three groups, which they classify as follows:

The uric acid group, in which they enumerate ten bases. The creatinin group, consisting of seven bases, and a third, undetermined group.

Besides these Brieger, Gautier, Hoppe-Seyler and others, have isolated from animal and vegetable organisms in various states of decomposition, about forty substances called ptomaines, some of which exist, and are formed, at times, in the human economy—especially in the intestinal canal. Now, when we contemplate this vast array of physiological and pathological chemical products of the laboratory of the animal body, some of which are so noxious if retained in certain situations or are deflected from certain courses, we ought not to be surprised at the ease with which that equilibrium of the functions—called Health—may be upset; especially as the so-called civilized human being is not only an artificial

animal with artificial impulses, and a great range of volitional power; but is assailed on every side by enemies of a parasitic nature, which, if successful in the "universal struggle," may greatly hinder the molecular and chemical coördination. Many thinkers have maintained that the biological were not distinctive from the chemical processes in Nature; but, although intimately connected, we must recognize the difference between the peculiarly vital character of molecular and blastic changes concerned in cellular movement, growth and development, such as Karyokinesis; and those changes which, from time to time, take place in the composition of the proximate principles in the nature of fermentation or oxidation, which are strictly chemical.

We know that certain irritations of a chemical, mechanical, electrical or calorific nature may be transmitted to vessels, so as to produce stasis and inflammation, or, directly to leucocytes, or other cellular elements, so as to induce other changes—degenerations—such as the albuminous, amyloid, waxy, lardaceous, caseous or hyaline. We also recognize that there are various degrees of susceptibility and resistance belonging to different tissues, and at different times under equal provocation, so that the blood, leucocytes, and other cells which under the influence of the nervous system, are the most important agents in carrying on the oxidation and nutrition of the body, may become the agents of tissue destruction. As Armory says, speaking in a general way of the nutrition and formation of healthy tissue: "We may classify these under two principal heads. That of metabolism, which comprises the whole range of transformation under the influence of chemical processes, and by means of which proteid substances undergo their many changes; and that of cell proliferation, by means of which the cells are multiplied." These metabolisms, whether of the constructive or destructive character, are chiefly performed by *functionally active cells*.

Although the question of independent trophic nerve action is still unsettled, we know that the influence of the vaso-motor system over the blood and nutrition is very great; for strong external stimuli, such as shock, etc., will produce changes of a physical character in the blood. Wertheim found that the blood of animals which had suffered severely from extensive burns showed afterwards the presence of foreign bodies—yellowish granules, besides increased fluidity, and disintegration of the red blood corpuscles.

Concerning animal chemistry there is but comparatively little known! However, we have seen from the immense variety of chemical substances already discovered to be results of fermentation, or chemical action and reaction, what the probable changes are! Laboratory experiments by Kolb, Munk, Peterson of New York, Shaw and

others show that electrical energy is capable of producing great chemical transformation and decomposition in organic substances, outside the body. They show also that similar changes, either primarily or secondarily, may be produced in living tissue. These observers have thus carried into the system such substances as iodine, strychnia and quinia, in proof of which, these substances were found in the urine in twelve hours or so afterwards. Zinseli has demonstrated beyond doubt, physiological, chemical, and calorific effects upon living tissues by electrical energy—electrical osmosis—as he called it.

Protoplasm, composed of carbon, hydrogen, oxygen, nitrogen, sulphur and phosphorus, arranged into a very complex molecule, which is "the physical basis of life," as Huxley says, and which is the main substance of all animal and vegetable cells, seems capable of the widest degree of change; by "its universal and constant waste; and its repair by interstitial formation of new matter similar to the old."

"Its power to give rise to new forms similar to the parent ones by a process of division. Its manifestations of periodic change in constitution developing decay and death."

Mills, Foster and other physiologists state that protoplasm is not a single proteid substance, but a mixture of such. It contains often also starch, fat, chlorophyll, etc. The *cell* is composed of protoplasm, nuclein, plasmin and chromatin as Dr. McCallum, of Toronto (who has been investigating nutrition), calls the coloring matter of animal cells. Protoplasm under nerve influence constructs a certain substance which is antecedent to another final product, which is called a ferment. According to Vounjaksch, when fibrin or other proteids are acted upon by pepsin and hydrochloric acid at a proper temperature, etc., the proteid passes through several stages before being finally converted into peptone.

The proteid molecule seems to be split up and the albumoses are the first bodies formed. Kuhne describes a proto-albumose, hetero-albumose, and deuto-albumose. Passing to the blood, which is such an important tissue both in health and disease, and so involved in any consideration of protoplasm, we find its chemical composition to be water, proteids, salines, fats, and extractives. The proteids being known as para-globulin, globulin, serum-albumin and fibrinogen; the principal extractives: urea, creatin, and allied bodies, sugar and lactic acid—the serum containing the alkaline salts. The different corpuscles make up from one-third to one-half the weight of the blood, and of this, the red corpuscles may be said to constitute a greater part. The colorless cells are known to contain, besides protoplasm, peculiar granules, fats, glycogen, lecithin, protagon, and other extractives. One especial interest attaches to the red corpuscles, on account of

their containing, organically or intimately combined, iron.

There have been very many interesting studies in relation to the blood and nutrition, of late, which we have not the time to notice. Physiologists have, however, found different actions of globulins, para-globulins and fibrinogen in serum. The behavior of coagulation, and the action of so-called fibrin fermentation is not without interest from a pathological point of view, for we shall probably find, in the future, that in many of the general diseases, characterized by parenchymatous inflammation, such as lobar pneumonia, the disease may be due to this vital process—including chemical changes of local origin and influence; for it must strike every one who gives thought to it, that some of these diseases, at least, affecting organs are not essentially inflammations, but are diseases of the blood, as has been found by my colleague, Dr. Gibbs, in some investigations now being made upon pneumonia. What Virchow terms parenchymatous inflammation, that is, cloudy swelling or parenchymatous degeneration, met with in many febrile diseases,—especially the infectious fevers and septicæmia, and after poisoning by arsenic, phosphorus or strong mineral acids is, probably, due initially to some local change in the blood and cells of the part.

Dr. W. C. Glasgow, of St. Louis, pointed out a similar pathological condition in connection with some forms of acute pulmonary diseases a few years ago.

Payne considers the granular degeneration so often accompanying febrile or inflammatory infections as a *passive* and not an *active* process, resulting from the action on the epithelium or parenchymatous elements of a part, of some injury, which, acting on the vessels and connective tissues, produces hyperæmia exudation and cell-diapedesis. Another supposition is, that these molecular changes are the consequence of the high temperature to which the tissues are subjected during febrile conditions.

Concerning the typical physiological ferments contained in the saliva, gastric juice, pancreatic juice and bile, we ought to say a word. Saliva is composed of proteids, mucous and salts. Its principal function is in reducing starchy matters of food to sugar. It produces besides dextrose and maltose, acrhrodextrine. This takes place in an alkaline solution; but a feeble acid added will be sufficient to stop the action. The active ferment of this fluid is *ptyalin*. The activity of gastric juice is due to the ferment, *pepsin*. The exact nature of the process by which proteid is changed to peptone is not known. This proteolytic action is possessed by some vegetable organisms which are said to form a para-peptone.

Bile.—In the composition of human bile we have bile salts, soap and fats, cholesterin, lecithin

and glycocholates, and taurocholates, also waste products, such as *hemoglobin* and *cholesterin*. The digestive action of bile consists mainly of resolving mucous into a proteid and an animal gum; it also assists pancreatic fluids in the emulsifying process, and thus allows of more ready osmosis.

Pancreatic juice.—The organic constituents are alkali-albumin, peptone, leucin, tyrosin, fats and soaps, and indol. It is amylolytic, proteolytic, and steaptic. These powers are attributed to three ferments, amylopsin, trypsin, and steapsin. Proteid digestion is carried still farther than by the gastric juice, and we have a quantity of the non-crystalline nitrogen compounds formed, leucin, one of the amido groups in the fatty acid series, and tyrosin, one of the aromatic series. Now with all this biological, chemical, molecular, and fermentative action going on in the human body, forming a great number of simple and complex organic substances, not only innocuous but poisonous, being ranked as tissue, as well as functional poisons, may we not find abundant cause for disease? Peptones injected into the blood of a healthy animal, according to Brunton, will cause death. Even the healthy blood of one species of animal injected into that of another, will cause death from non-adaptability, according to Mills.

The experiments and observations of Dr. Stockton, of Buffalo, showing the deleterious effects produced by the entrance of the Portal blood into the systemic circulation is highly instructive as bearing on this point.

Microorganisms and many enzymes injected into the blood are readily destroyed, as pointed out by Mitchell, Prudden, and others. Although there is a parasite (the *filaria sanguinis hominis*) which is known to inhabit the blood. Many observers believe that certain febrile states are caused by the absorption into the blood of peptones, which have gone through and not been split up by the liver into globulin. It is not improbable that absorption of ptomaines from the intestinal canal (which always contains some) may account for many of the so-called "malarial attacks" which so often serve as mantles of relief to our bewildered diagnostic sense. The proof of which may be assumed from the prompt relief which ensues from a brisk cathartic oftentimes. That dangerous condition known as ammonæmia and acetoneæmia is more likely due to the absorption of ammoniacal toxins (the result of perverse chemical action) than to the presence in the blood of a special micrococcus. However, it is argued by those who have found microbes in urine, freshly voided, in that diseased condition called bacteriuria, that the microorganisms are the essential cause. It is known to physiologists that after severe exercise the alkalinity of muscle juice is changed to acid, due to the presence of sarco-lactic acid. May we

not see here the possibility of a combination with some organic base, so as to constitute a poison, the absorption of which determines disease. The chemical examination of sputum in various diseased states of the respiratory apparatus, shows, according to Kossell, Hoppe-Seyler, Salomon, Vonjaksch, Filehuc, Stonikow, and others, the presence of peptone, serum albumin, cholesterin, acetone, acetic, butyric, and caproic acids. Glycogen, and ferments resembling pancreatic ferments, besides a large number of different bacteria.

Bitter and Rietsch have shown that cholera microbes contain and elaborate a peptonizing ferment, and Hueppe has shown by experiment that the so-called cholera bacillus produces a toxine, the peculiar properties of which he has demonstrated on healthy animals.

The researches of Kossell show that among the decomposition products of nuclein are found guanine, which occurs in plants and vegetables. The tissue of some animals contain adenine, hypoxanthine and xanthine. Guanine and creatine are said by Vaughan and Novy to mutually replace one another. Creatine is considered by Hoppe-Seyler as an intermediate product in the formation of urea. The cholesterin, found in the body is capable of many chemical substitution products. An analysis of the thyroid gland by Bubnow gave hypoxanthine, paralactic acid, and a proteid substance which he named thyroprotein.

Nothnagel found that the bile acids taken up into the circulation interfered with nutrition, producing fatty degeneration of organs or lymph glands. Among other poisons called by Brieger toxins, may be mentioned the so-called cadaveric alkaloids, such as nenridine, cadavarine, saprine, mydaleine, putrescine, muscarine, choline, and pepto-toxines. We obtain also, from the putrefaction of albuminous matters, formic, acetic, butyric, valerianic, palmitic, acrylic, acrotomic, glycolic, lactic, valero-lactic, oxalic, glutaminic, and aspartic acids, and various ammonias, besides numerous amine bases, such as propylamine, trimethylamine, etc., also the fixed alkaloidal bases, some of which are given above. Martin and Wollenden, by their experiments, show that the poisonous property of jequirity or abriu resides in a globulin and an albumose. They also show that peptic albumose is poisonous to dogs. They give an interesting table of comparison of these with snake poisons. Poisonous alkaloids from articles of food have been separated by Brieger and others, in some instances, and are now recognized as probable causes of disease. The question of fermentation as set up by microorganisms and the production of enzymes and toxins by them, is a leading one, and as yet unsettled. We have seen that these processes go on in nature in all instances of decomposition and putre-

faction. The chemical effects may be typically illustrated by the action of toruli and other yeast fungi, which, by fermentation, produce alcohols, acetic acid, etc., from saccharine substances. Parvinski has published the clinical history of a case of asthma in a young person in which the urine contained a large quantity of acetone during the paroxysms. A similar process of fermentation has been pointed out by Brieger. Hueppe, Vonjaksch, and others in relation to the cholera bacillus, as shown by the poisonous effects on animals, by the introduction of the toxine which they had separated from the bacillus culture, and which they believe to have been produced by the bacillus. Klebs and Loeffler have also discovered that the diphtheria bacteria produces a ptomaine which may be the cause of the general infection, the microorganism being only local in its operation, a theory advocated years ago by Oertel. Loeffler could not find the bacillus in the blood, and believes that it always resides outside the body, while the toxine is the real poison.

Brieger and C. Fraenkel have shown that diphtheria bacteria produces two poisons, one of which acts toxically, while the other secures immunity. Zuegler claims to have isolated a poisonous crystalline alkaloid from tubercle, which he believes capable of producing the disease. Herman Scholl, of Prague, confirms the conclusions of Brieger and Fraenkel that both anaerobic and aerobic bacteria produce poisons (toxines) or enzymes. The former more than the latter. Dr. F. Lydston, of Chicago, has shown that the evolution of venereal disease is not due to a coccus, but a ptomaine which inhabits the vagina, proving this by experiment. Many observers, however, claim to have found the coccus of gonorrhoea in the joints. There is much doubt as to the exact part played by the bacillus of typhoid fever, and without giving the controversy between Klebs, Eberth, Koch, Meyer, Friedlander, Gaffky, and others, it is probably as Ben-ner and Peiper say, not really pathogenic, and that the disease is produced, as Brieger suggests, by a toxine. Dr. Gibbs and myself found that sterilized watery extract of tubercle would kill a newly hatched white-fish in fifty-five seconds, completely permeating the protoplasmic mass, while an alkaline extract would do so in about sixty-five seconds. Mice afterwards injected with the fish show no signs of septicæmia or other disease, but die if injected with the same extract. Thus showing a peculiar affinity between protoplasm and tubercle toxines.

To discuss in a special manner the saprophytic and pathogenic bacteria concerned in a full biological study would take so much time that I can only, as it were, allude to them.

In Eisenberg's tables of known bacteria for laboratory use one hundred and sixteen species are enumerated, etc.

We have found that when guinea-pigs were injected subcutaneously with the extracts made from the lungs of monkeys dead of their ordinary phthisis pulmonalis (which is characterized by marked emphysema the only effects were fever with catarrhal symptoms, lasting about two weeks. On the other hand, when injected with an extract made from tuberculous lungs from the human being, general tuberculosis followed. The morbid anatomy of the monkey lung is identical from an ordinary view, with that of human phthisis pulmonalis. This probably illustrates the condition which all pathologists recognize now as *pseudo-tuberculosis*. I am aware that it is generally accepted that bacteria or their spores are the essential cause of most, if not all of the infective diseases. And the results of bacteriological investigation during the last few years would seem to support such a doctrine, for the following reasons, viz.: That they can be isolated by color reaction and thus directly connected with the diseased body where found. Moreover, they require a certain time for development, thus corresponding to the period of incubation of such diseases; many of them being ectogenic and saprogenic, anaerobic, or aerobic, can thus live until the opportunity for invasion offers. Being endowed with life and multiplying enormously, they can strenuously resist destruction. Being protoplasmic (composed of albuminous material) and microscopic they can more readily affiliate with animal fluids, cells and tissues. Existing in a passive or quiescent state as well as an active one, they can behave like vegetable seeds and spores, and preserve a long period of latency. For these, as well as other reasons which could be adduced, we are led to believe that bacteria must be the cause in some way or other of the zymotic or infectious diseases.

But the question arises, how do they accomplish this? By mere local growth for a parasitic life, by a secretion of material from themselves, in other words, are they secreting cells? or, by inducing at once chemical changes or fermentation of a destructive character with the formation of new substances—poisons?

If we examine carefully into the basis on which certain forms of organisms stand as the materies morbi of a given disease, we shall find that those who are so strong in their faith in the essential microbic origin of disease have not in some instances looked fairly into the status of affairs. For instance, take the case of the comma bacillus of Koch, Fraenkel, in his text-book of bacteriology, third edition, says: No case of genuine cholera has as yet been reported in which the comma bacillus has been absent. From the context, he probably means in the intestines. This has been undoubtedly disproved! This illustrates again what was said at the outset, that all of these questions should be looked at without

bias as far as possible, without regard to nationality, and from the stand-point of clinical as well as laboratory experience.

In whatever manner their life history is exemplified certain effects have been observed connected with them, as a class. Their career *ad interim* from one animal to another is not well known (excepting perhaps the bacillus of anthrax). Some people supposing that they may be sapro-genic at first, and thence transformed to pathogenic. In the case of many of them, their spores have either never been really demonstrated to exist, or their behavior formulated. Most species, if not all, are destroyed by the healthy fluids or tissues, and hence their destiny depends upon a favorable *nidus* or *pabulum*, which means disease. It is obvious that their artificial culture in media outside the body or in the lower animals can only approximately reflect their real natural growth and development, for in no instance is it possible to transfer the artificially cultivated microorganism to an animal with the absolute certainty that *nothing else* accompanies the bacterium. Take, for instance, tubercle bacilli, the study of which has given the most satisfactory results. We are being inoculated day by day with tubercle bacilli from the air. Why do any escape? Because some are so healthy that they are immune. But how is it that every guinea-pig inoculated gets tuberculosis? The radical believers in microbiosis say, because they are all susceptible. But the probable explanation is (like that of diphtheria), that the *materies morbi* is introduced and carried away by the lymphatics and sets up a general chemical change. There is also local change, abscess, at the situation of the inoculation from which are furnished spores which may flourish in the blood or lymph fluid afterward, where they will now find suitable pabulum for development, thus showing the fact that certain bacteria, at least, develop or act under certain conditions only, and upon a particular *nidus*. Their chemical composition is unknown during a state of activity. That certain species only appear to be pathogenic, would imply a state of specialization analogous to living nucleated cells. That their action is local, primarily, in all cases, may be assumed, because their behavior in no way shows that they themselves invade or maintain their existence in the blood or lymph fluids, because the blood would destroy them. For there are but few instances recorded of any one having found bacteria in the blood, unless we except the anthrax bacilli. Therefore it is probable that pathogenic bacteria develop only where some *previous disease* or *abnormal state* of the body suitable to them exists. That having found such, they take root, as it were, and there by catalytic action primarily, and secondarily, give rise to a particular *toxine* or *poison* which in turn acts selectively as a tissue poison!

The various facts stated of a *toxine* connected with diphtheria, typhoid fever, cholera, suppuration and abscess (which has been shown to be independent of bacteria), croupous pneumonia, scarlatina, phthisis pulmonalis, syphilis, tetanus, gonorrhœa, cobra and other snake poisons, etc., together with the well known (chemical) noxious products forming constantly in the body, are sufficient, it seems to me, to show that the etiological agency of bacteria are *mediate* and not *immediate*!

This catalytic action coincides with clinical observations in many directions, as, for instance, the action of snake poisons, as shown by Weir, Mitchell, and the British India Sanitary Reports. From the cobra (one of the most deadly of serpents) an alkaloid as the active principle has been separated, but how far its virulence has been tested we do not know.

There are formed in certain plants, as we know, very poisonous alkaloids and glucosides, many of them corresponding in chemical character and physical behavior to animal alkaloids and colloids; solanine, for instance, is a basic glucoside which under the influence of dilute acids splits up into solanidine and sugar. Both of these active principles are blood poisons belonging to the group of sapro-toxines.

I would say that the experiments of Dr. Gibbs and myself, point to the same thing as to the nature and behavior of tubercle when cultures or extracts are introduced subcutaneously. We have also observed that the insufflation of sun-dried sputum (tubercular) will produce phthisis pulmonalis, while the inoculation of sputum (phthisis) which has been long dry from age will not produce tuberculosis. This seems to have been confirmed by some recent experiments made by Dr. Stone in the Harvard Laboratory, who inoculated guinea pigs, with negative results, with sputum which had been long dried, and which was probably from a case of phthisis pulmonalis. We are now carrying on an investigation to ascertain the effects of inoculating guinea pigs with sputum from phthisical patients, which sputum has been dried in the sun in Southern California, under the supervision of Dr. Norman Bridge, of Chicago. The investigation has not proceeded far enough to show just what effects it will have in the production of tuberculosis, but one remarkable result has already been obtained. Six guinea pigs were inoculated, and within thirty-six hours after the operation two died of septiceamia, showing that this effect, which is a frequent result of inoculation with sputum taken directly from patients, is probably not caused by any organism, and thus coinciding perfectly with observations which Payue gives in his text-book relating to the occurrence of septiceamia without microorganisms having been discovered in connection therewith.

Concerning the tubercle bacilli, the bacilli

immediately produced in the several diseases known as tubercular, why would any previously prepared nidus be necessary? If they, or their spores (which have not as yet been satisfactorily demonstrated) are constantly invading us (which is undoubtedly true), they must at once be destroyed, or, if gaining access to the fluids of the body, would set up mechanically or otherwise, inflammation and peculiar effects as any other foreign body would. But as such microorganisms must find just the proper conditions for development or not develop, we may assume that such conditions imply previous disease, such as caseation, whether tuberculous or not. We have already seen what complex and delicate processes attend the changes of proteids, and how easy, by radical or atomic substitution, one may be changed into the other; we can therefore see how probable it is that these microorganisms operate by a peculiar property which enables them to decompose or exercise a catalytic action on certain states and kinds of proteids. The subject of immunity and susceptibility of course cannot be discussed here—suffice it to say that the ideas and experiments of Trudeau of New York, and McLaughlin of Texas, in this direction, are worthy of careful attention, and apply not only to microbes but to chemical substances connected with them. To say nothing of the chemical action and products normally evolved, as already explained. Abelous has obtained sixteen species of microbes from the empty stomach by lavage; seven of these were well known varieties, ten of these attacked and changed albumin, twelve fibrin, and nine gluten, ten caused transformations of lactose into lactic acid; thirteen formed a variable quantity of glucose from starch; rapid and energetic decomposition with evolution of gas, leucin, tyrosin, indol, skatol and ammonia compounds took place in presence of saliva. I do not know that all of these observations have been confirmed. But we have confirmed his experiments regarding albumin, which is readily transformed by saliva in the presence of microorganisms outside the body. Experiments with invertin, a ferment found in the intestinal canal, have shown some interesting results in relation to microbe metamorphosis, which are still, however, *sub judici*. Jaccoud finds the pneumococcus, besides several other forms of bacteria, in diphtheria. He believes that individual reaction is what determines the disease.

What application can be made therapeutically of the facts obtained? It is manifest that the diseases in question are caused in some way by the presence or entrance of microorganisms. Therefore the main therapeutic indication is to attack them, or neutralize their operation. We have seen that bacteria either produce for themselves or from the organic substances which they attack, a poison, or enzyme, and that this can be cultivated outside

the body in some instances. Pathological chemistry has not demonstrated with exactness the nature of all of these poisons, or classified them, but it is fair to believe that such will surely take place in the near future. Although it is generally supposed that the inorganic chemicals are not tissue poisons, but act only upon the functions through the nervous system, yet we believe that such is not the case when we observe the tissue changes produced by iodine, bromine, phosphorus, arsenic, the silver, gold, platinum and cupric salts, besides some of the vegetable alkaloids. Dr. Gibbs and myself have been able to neutralize the toxic effect of tubercle by admixture with chlorine iodine. Chloride of gold combined with glycerine, salts of platinum and glycerine and peroxide of manganese, outside the body, and with the chlorine, iodine, and gold and sodium chloride in inoculated animals. That certain chemicals have a selective action on tissues cannot be doubted; take, for example, the hypodermic injection of cantharidin used a few years ago by Cornil and Ranvier, resulting in the production of inflammation of the air passages; also the work lately of Liebreich in injecting cantharadate of potassium for the cure of phthisis pulmonalis and tuberculosis, which he believes produces exudation, as when applied to the skin. Also the selective action of strychnia and atropia, the latter acting on the secretory cells of the salivary glands, stopping secretion notwithstanding the induction of hyperemia. Arecoline, a volatile liquid alkaloid from the areca nut, has a selective action on the heart and is excreted unchanged. Harnack probably states the truth in saying that the action of drugs is molecular and fermentative. On account of the changes which remedies are apt to undergo in the stomach and intestines, by being oxidized or otherwise changed before absorption into the system, the rational way, it seems to me, is to introduce the agent hypodermically; in this way it is possible to get effects which cannot be accomplished otherwise. Dr. Lauderer has obtained beneficial effects in phthisis from hypodermic injection of balsam Peru, which he says goes at once to the diseased part, thus stimulating animal fluids or cultures, as exemplified by the effects of Koch's lymph and similar cultures used before by Pasteur, Grancher, Martin, Rengi, Gibbs and others. Dr. Behring has lately found that a number of chemical substances used hypodermically, such as aurochloride of sodium, naphthaline, and trichloride of iodine, were capable of neutralizing the poison of diphtheria in guinea pigs, but the most active of all was the trichloride of iodine. He also practiced, in diphtheria the plan of vaccinating the animals with bacilli cultures. Prof. Merzolski reports much better effects from bromide of gold used hypodermically (in $\frac{1}{2}$ and $\frac{1}{4}$ gr. doses), than by the usual way of administra-

tion of bromides. The prompt effects of Sammeter's treatment of erysipelas by carbolic acid injections, are well known. The superior effects of the treatment of syphilis, by hypodermic injection of cyanide and bichloride of mercury and chloride of gold and sodium are striking, as we all know. Dr. Zumbali, of Rome, found hypodermic injections of chlorodyne in profuse diarrhœa particularly superior to its administration by the mouth. The hypodermic injection of ergot for the relief of hæmoptysis is another example. This agent, administered in considerable quantity by the mouth, will often fail, whereas one, or at most two, hypodermic injections of $\frac{1}{16}$ or $\frac{1}{8}$ gr. of ergotin will generally stop a severe attack. Digitalis also acts upon the cells and vascular system more certainly when so administered. I may also mention the beneficial effects of strychnia used hypodermically, in typhoid conditions. That animal poisons can be neutralized in the body, I believe, will soon be more generally demonstrated. The experience of Tyndall, of New York, in the vaccination process for the cure of tuberculosis, promises well. Hemmeter has stopped the course of diphtheria by the vaccination of the patient with an erysipelas toxine; and Prof. Grancher states that persons suffering from tenia tonsurans are immune from diphtheria. This would seem to show that there must be a sort of antagonism or isomerism between animal and chemical poisons; and why may not more universal application be made of this principle, with a view of obtaining more specific therapeutic agents and effects? The ethereal oils, on account of their diffusible antiseptic properties, are undoubtedly applicable to the neutralization of disease when used hypodermically, and may prove yet of great value in the zymotic diseases. We are now engaged in using some of them in this way, and find that they actually provoke the liquefaction of effused products. We are also experimenting with members of the heizoin and formic acid series, and the toluidines, in an endeavor to learn their action on metabolism and disease poisons. Dr. Emil Schutz believes that drugs act topically on the secretions by precipitating albumin. He also demonstrated, by cases, that tannic acid may produce urticaria by external application alone. Galezowski, of Paris, has lately discovered a new bacteriacide, by the decomposition of an aniline dye, which has the same properties as pyoktania on the tissues. In this direction we may look for brilliant results, on account of the action of these substances on albuminates. My chief object is to awaken a more general interest in physiological and pathological chemistry, to the end that we may as speedily as possible acquire a scientific chemical therapy, and thus release her from the dungeon of empiricism, where she has been imprisoned with so little light these many years.

THE ADDRESS ON STATE MEDICINE.

Read by Title at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D.C., May, 1891.

BY W. L. SCHENCK, M.D.,

OF TOPEKA, KANSAS. PROFESSOR OF STATE MEDICINE AND PATHOLOGY IN THE KANSAS MEDICAL COLLEGE.

Mr. President and Fellows of the American Medical Association:—While I appreciate the honor of the Address on State Medicine, I comprehend the difficulty of doing honor to a position so ably filled by Dr. Henry I. Bowditch, Dr. J. L. Cabell, Dr. George H. Rohé, and other distinguished physicians and sanitarians. I am as another Ruth in the already well gleaned fields of Boaz.

If the importance of the subject assigned to me required emphasis, it could receive no stronger than was given to it at the last meeting of the Association, when its honored president, Dr. E. M. Moore, devoted much of his address to it, while the distinguished Father of the Association, Dr. N. S. Davis, in the Address on General Medicine, dwelt upon the same theme.

State Medicine, narrowly defined, is the control of disease through legislative enactments. In its broader signification it includes all that tends to the prevention of disease and to the fullness of life.

The various departments of medicine exist because health is more to be desired than disease. That department then which preserves health and prevents the development of disease is the peer of any whose function is to remove disease and restore health. Hitherto cure has been the chief thought of the scientific physician. Henceforth prevention will be his noblest theme.

While no new discoveries have been made in this important field during the past year, there has been a notable advance along the whole line, and the importance of aseptic and antiseptic conditions has been more and more pronounced.

There has been throughout the year a very commendable diffusion of knowledge by sanitary conventions and journals, and through State Boards of Health, and perhaps some good has been effected through the laws that make hygiene, and especially the relation of alcoholics to disease, a part of our public school education, though it has often proved so small a part that it might have been eliminated without any appreciable change. Those who instruct must understand what they assume to teach before satisfactory results can obtain, and the public must comprehend the importance of physiology and hygiene before teachers will acquire the necessary knowledge. In America health, both public and private, has generally been left to take care of itself, and the scientists who devote their lives to its protection and development have too often been deemed impracticable cranks. Cure men of injuries and

On account of the unavoidable absence of its author.

diseases and they will at least load you with gratitude; save them from injury and disease, and your service is beneath consideration, and while governments have been disposed to pay and honor those rendering valuable service in other departments of life, too often neither pay nor honor has been awarded the sanitarium. Thus the first English army sent to the Crimea was decimated through want of sanitary care. With the second was sent a special sanitary commission, and after the campaign it returned in better sanitary condition than existed among the troops at home. The government crowned with honors the officers through whose neglect the first army was lost, but did not even commend those through whose wisdom the second was saved. Whilst this course has been the rule, during the year, Germany has made a commendable advance by conferring upon Koch a Baronetcy for distinguished service in the field of preventive medicine. In America, most of the States expect scientists to devote their lives to sanitation, on health boards and elsewhere, without fee or hope of reward, and to save the community from disease without adequate legal authority. Perhaps when sanitarians charge for their services they will be considered valuable, as mankind are disposed to estimate the value of every article at what it brings in the market. While practical sanitation is always a philanthropy it is never a charity. Scarce any other service yields so valuable a return. "An ounce of prevention is worth a pound of cure."

While in sanitary science many fields remain unexplored, and some differences exist, it is far in advance of its legally authorized application, and far enough advanced to see that the truth is within reach, and that few diseases are not amenable to its methods. If legal enactments for the preservation of health and life, were abreast with sanitary knowledge, the United States would annually save vast sums of money, thousands of years of productive labor and thousands of human lives. The recent advance in the department of medical education is full of encouragement. Since the organization of this Association, forty-four years ago, the burden of its prayer has been a *higher standard of medical education*. After twenty years of such effort, a committee, composed of its most eminent members, Drs. Gross, Bell, Condé, Pope and Bigelow, reported, "Its efforts have hitherto failed to produce any very great practical results;" and at the same meeting, another committee of equally distinguished physicians, Drs. Alfred, Stille and N. S. Davis, reported resolutions in favor of a better education as a pre-requisite to matriculation, and attendance upon three annual graded courses of medical instruction before admission to examination for a degree. During the past two decades the praying and resolving has gone steadily for-

ward, ably seconded by the American Academy of Medicine, yet, judging from a paper read before that body last year by Dr. Dunglison, these more than forty years of prayer have fallen short of the Throne.

The statistics of the past year are, however, very encouraging. According to the excellent report of that eminent sanitarian, Dr. John H. Ranch, in 1882, only forty-five colleges in the United States required any educational qualification for matriculation, now 129 require at least a good English education. In 1882, only twenty-two, and some of these relapsed, required three full courses of lectures of six months each: now there are eighty-five, one-fourth of them having been added, with others that have taken action since the publication of the report, during the past year. In 1882, only 52 colleges had a chair in State Medicine. In 1891, there is such a chair in 117 colleges. "Nothing succeeds like success." Nothing demonstrates the power of prayer like the demonstration. When we move forward toward the answer it comes with quickening power. Until then it remains

"The hidden motion of a fire
Within the human breast."

How much the action of the Illinois State Board of Health, requiring a three years' graded course as a pre-requisite to the acceptance of diplomas, and the results of the examining Boards of Virginia, North and South Carolina, Minnesota, New Jersey and Alabama had to do with hastening the answer, we will not stop to inquire, but I think we will all approve their action.

This advance, wherever honestly made, will tend to unify medical knowledge and destroy medical sects. "He who knows it half speaks much and is always wrong." Those who rest on their materia medicas, and antagonize the regular profession, which seeks to look at therapeutic action from every rational standpoint, though only as one to an hundred, are chiefly known by their clamor for equal representation on public boards, as though there could be a homeopathic hygiene, an eclectic etiology or a Christian science chemistry. Therapeutics is the roof that covers the temple; necessary to the temple, valueless without it. When the sciences from which spring both prevention and cure, are taught in graded courses, and absorb the thought of the physician, he will not thrust himself outside the pale of scientific medicine for such irrational dogmas as Ars., Bel., Bry., etc., cure whatever is set opposite them in the "Symptoneum Codex" of Hahnemann.

While the marvelous progress of this last quarter of the century has in many departments of life created contempt for the slower methods of education, in medicine, notwithstanding the tendency to the development of specialties, there has been an increased demand for good work,

thorough work, from all who cross its portals, both because there has been a truer conception of the length and breadth and depth of medical science, and a higher appreciation of the value of human life.

And we may well notice and commend the recent evidences among the people of increasing faith and interest in this department of medicine, manifested by such substantial methods as the gift of Henry C. Lea, of Philadelphia, the effort, with Mrs President Harrison at its head, to endow a Medical Department at Johns Hopkins, and the kind words of Mrs Gen. John A. Logan, in the *Home Journal*, in favor of endowing a medical department to the University about to be established at Washington.

As the broader possibilities of State Medicine become more and more demonstrable its relations to political economy and true statesmanship are more apparent.

It is unnecessary to recount before this Association the loss the nation sustains through preventable diseases, or the methods by which they may be prevented. While there may be errors in diagnosis, and while sanitary methods may not be infallible, it is the duty of the government to apply sanitary knowledge as fast as developed, and to develop sanitary science. If in its life destroying service it rightly says "Better that ten guilty men escape than that one innocent man perish," in its life saving service it may well say, better an hundred innocent detentions than that one infection laden person scatter yellow fever, cholera or small-pox, disease and death, throughout the land, especially now that quarantine has ceased to mean forty days and forty nights of fasting and prayer, but only disinfection and detention until the period of incubation has passed. If the citizen is entitled to protection against injury and death, accidental or designed, he is equally entitled to protection against the more numerous and dangerous foes, that he can neither foresee nor avoid, whose poisons enter his body with necessary air, water and food.

Every intelligent sanitarian and statesman understands the power of State Medicine to save from disease and death those for whom the State exists. Scarce two centuries have passed since small pox ravaged the earth in winter, and various plagues decimated it in summer. In London, then perhaps the most highly civilized city in the world, with a population of only half a million, during the winter months from one thousand to fifteen hundred per week perished from small-pox, taking its victims from among all classes. It robbed William the Conqueror of his beloved Queen and filled potters fields from the homes of the poor, and as the statesman and historian, Macaulay, has graphically said:

That disease over which science has since achieved a succession of glorious and beneficent victories was then

the most terrible of all the ministers of death. The havoc of the plague had been far more rapid, but the plague had visited our shores only twice within living memory; and the small-pox was always present, filling the churchyards with corpses, tormenting with constant fears all whom it had not stricken, leaving on those whose lives it spared the hideous traces of its power—turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to the lover.

During the summer of different years from eight to ten thousand a week died of the plague, and when the city was not visited by special pests and plagues, the death-rate exceeded that of the modern London by more than forty per thousand, nearly twice the proportion that died last winter in Chicago. But this is not wholly a history of past ages. Wherever the same unsanitary conditions are permitted to obtain we still hear the tramp of the White Horse. Only two decades ago the yellow fever destroyed in our own Memphis an equally large proportion of lives.

The committee appointed by the Forty-seventh Congress to investigate and report the best means of preventing the introduction and spread of epidemic disease, reported:

In the yellow fever epidemic of 1878, which raged so fearfully and fatally at New Orleans, Memphis, Holly Springs and Grenada, and extended far up the Ohio River, and to many other places, the actual loss to the people of the United States in the element of material wealth, to say nothing of impaired health and loss of life, is variously estimated by those best informed on the subject, at from \$100,000,000 to \$200,000,000.

President Hayes, in his message to Congress, December, 1878, said:

It is impossible to estimate, with any approach to accuracy, the loss to the country occasioned by this epidemic. It is reckoned by hundreds of millions of dollars.

About one hundred thousand cases are believed to have occurred, of which about twenty thousand, according to intelligent estimates, proved fatal.

In a report made by the very efficient Secretary of the Michigan State Board of Health, Dr. Henry B. Baker, he says:

The annual saving of life has amounted to eleven hundred lives, representing seven thousand cases of sickness. Estimating each of these lives at only \$500 each, about half the value of an adult slave, and you have an annual saving of \$550,000. This the known saving from three diseases only.

Averaging the time that each of these seven thousand cases would have been unable to work at a fortnight, and there was an annual saving of 270 years of productive labor. Thus we begin to see the possibilities of State Medicine. If such results can obtain with crude and imperfect sanitary laws, hindered by State limitations, and in a State so illy appreciating these benefits that its Governor could formally recommend that the Board through whose efforts the results were obtained be abolished, what may we not hope as sanitary science and law develop, when the people appreciate their importance, and when the

National Government efficiently coöperates with the several States?

But what a comment on the intelligence of the people, when the Governor of a great State falls so far short of true statesmanship that he can recommend the abolishment of a Board that, through its most efficient Secretary, has produced such results.

Take one other illustration of what can be done, of what should be done, through State Medicine: Under the improved sanitary conditions of London in 1888, its deaths were 18.5 per 1,000. In the City of New York they were 25.9. Both in climate and location nature has done more for New York than for London, and its death-rate should be less. If, with the city of Brooklyn, in every way similarly situated, it was reduced to that of London, there would be an annual saving of 15,988 lives, and if two persons should be continuously sick for each one dying, there would, by reducing the sick-rate to that of London, be an annual saving of nearly 32,000 years, and if the expectation of these lives was counted, what innumerable years would be saved, to say nothing of the expense of this excessive sickness and death, or of its suffering and sorrow. If this in New York alone, what of the National loss that State Medicine, properly applied, would save? Is the statesman wise, is the legislator a statesman or a philanthropist who permits this preventable loss of life and labor?

One of America's greatest men has described this as a Government "of the people, by the people, for the people," a nation where all power emanates from the people, and where all power not delegated to the General Government remains with the States, the intent being to delegate all power that the individual States cannot efficiently exercise. We are a nation of nations, with the grandest conception of rights, and the broadest provision for their protection known to man, assuming that "all men are created equal," not physically, intellectually or morally, but equal before the law, possessing an equal right to exercise and enjoy every natural right, an equal right to "life, liberty and the pursuit of happiness." Life and all its possibilities first, for in its preservation lie all other rights, and in its development, physically, intellectually and morally, all the best interests of the individual and the State, and liberty, without which life has little value—not liberty to do wrong, for no one possesses a natural, or can acquire a political right to advance his own at another's expense; not liberty "to secure the greatest good to the greatest number," but liberty to attain the greatest possible good without injury to another.

This principle not only lies at the foundation of State Medicine, but of all good government.

At the organization of this Government various departments were created, all looking toward

the development and protection of its varied interests. While we concede the importance of all these and of those created through the development of other interests, we naturally inquire for whom do they, for whom does the State exist? Is the thing created superior to those for whom it was created? Is not the health, the development, the life of the people its highest interest? Surely the treasures about their hearthstones, the lives of friends and neighbors, are more dear to the people than either commercial or financial interests, or "the cattle upon a thousand hills."

While all civilized nations have recognized the value of life, inflicting their severest punishment upon those who wantonly and maliciously destroy it, no adequate provision has ever been made for its protection against the causes by which it is constantly being destroyed. Is there not inconsistency in laws that destroy the life of him who wantonly destroys the life of another, while for each life thus destroyed they permit the destruction of an hundred or a thousand by preventable disease. If life is the highest interest of the nation, the dearest right of the citizen, the nation that fails to make every possible provision for its protection is inexcusable. Is a life taken by the stiletto or the bullet a greater loss to the nation, to the individual or to his friends, than when destroyed by pestilence or plague?

The National Government has recognized from its organization its authority and power to control disease, but lack of sanitary knowledge on the part of the legislator, whose education has not included sanitary science, has made medical legislation inefficient, while those selected to administer the law have too often been appointed for party purposes.

In February, 1776, Congress authorized the President to assist the States in preventing the admission of disease from foreign countries. Three years later the authority was extended and placed under the control of the Treasury Department, not, it would seem, from any just appreciation of the importance of saving life, or from any natural relation between health and finance, but because quarantines interfere with commerce, and commerce was a source of revenue, and so revenue has ever been deemed better than health by the legislator.

In 1798, the Marine-Hospital Service was organized, its purpose being to make provision for a class of citizens who served the nation on the high seas, but who were homeless when at home. For the same reason this too was placed under the care of the Treasury.

With a few unimportant provisions the status of State Medicine remained unchanged for more than half a century. After Asiatic cholera had thrice visited our shores, carrying death wherever it went, and after civil war had more fully demonstrated the relations of medicine to public health,

Congress authorized the Secretary of the Treasury to adopt such measures as would guard the nation against another invasion of cholera, and placed at its disposal an ample fund for the purpose, but, as if doubting the power or the wisdom of preventive measures, it only provided for its expenditure during the seven months intervening between May 26, 1866, and January 1, 1867. Though the hastily and imperfectly organized measures did not keep the disease from the country, they robbed the destroyer of his accustomed victories, and illustrated the possibilities of State Medicine.

Ten years later Congress authorized the application of preventive medicine to the District of Columbia, and this beautiful city was lifted out of the mud and transformed from one of the most unsanitary to one of the most healthy cities in the world.

Stimulated by the ravages of yellow fever, in 1878 Congress provided for a Health Commissioner for the District, and a health officer at a salary of \$3,000, and the same year an Act was passed requiring the Surgeon-General of the Marine-Hospital Service to make rules for certificates for foreign consuls, showing the condition of vessels and cargoes bound for the United States.

Hitherto all action looking to the application of State Medicine had been indirect, both National and State Legislatures fearing, apparently, to acknowledge its power.

In 1879 Acts were passed creating a National State Board of Health, defining its powers, and authorizing it to prevent the introduction of contagious and infectious diseases, its most important feature being the acknowledgment of State Medicine as a *life-saving service*. Hitherto it had been a "penny wise" affair, placed under the Treasury and created to save money. The National Board of Health was a political acknowledgment of the value of human life, and was required to report directly to the President of the United States. Though, like many of the State Boards, which were the prophets of its birth, it was created under a pressure that convicted without convincing the legislator, many of its provisions were crude and imperfect. With the battle on, it was thrown into action with the information and order of General —: "There is good fighting all along the line. Go in anywhere," but it achieved a success that will make it memorable in the history of State Medicine. Working in harmony with local boards of health, it strengthened their arms, and carried hope to their people, and changed the plague-stricken Memphis from a lazaretto to one of the healthiest cities of the South. In addition to illustrating the control of sanitary science over the great American plague, it published many valuable scientific papers and demonstrated the possibilities of preventive medicine.

While great credit is due to all connected with

it, its powers were too limited and ill-defined and it lacked the single and forceful head, as essential in our conflict with the hidden foe that is ambushed in the dark lanes and alleys of our cities, and in every swamp and bayou, as against an army with banners. While legislation in the interest of health has often been liberal when some great plague has struck terror to all hearts, efforts at such times are like attempts to stay the floods of the Father of Waters when the levees have broken; or to fortify a city with the enemy in its streets. To insure success provision must antedate invasion. There must be permanent authority with power to act, to insure protection against zymotic disease.

The Marine-Hospital Service, with an executive head clothed with the energy of Surgeon-General Hamilton, has still further illustrated the vital importance to the nation of State Medicine. But this Service was organized for a narrow sphere of duty, and though its boundaries have been greatly enlarged, its authority comes second-hand from a department with which preventive medicine has nothing in common, save that "public health is public wealth." It is only an indirect National acknowledgment of the possibility of staying the ravages of disease.

Boards of Health have been organized in nearly every State in the Union, and wherever they have been composed of scientific sanitarians, and lifted above the narrow lines of party politics, and given authority to act, they have been active factors in the development of State Medicine. But the plagues that destroy recognize no State lines, know no State rights, and when the several States delegated to Congress the right to regulate commerce with foreign nations, and among the States, they planted better than they knew, and gave the National Legislature authority to exclude from the country the great plagues that follow commerce, and to interdict their passage from State to State; but if the Supreme Court has decided correctly, that a State has no right to prevent alcoholic liquors from crossing State lines, and being distributed in original packages, a State has no right to prevent original packages containing the germs of septic disease from being admitted and distributed among the people. To secure the full force of State Medicine there must be a National head with power to coöperate with State and local boards of health.

The constitution has also wisely provided that Congress shall have power to provide for the common defense and general welfare of the United States. Does not the general welfare include defense against the preventable diseases that cause more suffering and death than all other causes—diseases that "walk in darkness and waste at noonday," against whose poisoned arrows the citizen, in his individual capacity, is powerless to secure protection.

The National Government, through its various departments, collects accurate statistics demonstrating the condition of commerce, manufactures, agriculture, mines, all that has hitherto been considered the important factors of political economy, but it has never realized that vital statistics are its only means of measuring the life wave of the nation, of keeping the life account, on which rests all its political economy, and the only foundation of sanitary science. Without knowing where disease exists, its disabilities and deaths, its causes and means of prevention, there is no possibility of knowing when, where, or how to prevent or arrest it.

That eminent scientist and sanitarian, Surgeon Billings, with most commendable zeal and great labor has endeavored to evolve out of the imperfect data furnished, the vital statistics of the nation, but the result has necessarily been imperfect and unsatisfactory.

Mind and morals act through matter. To evolve healthy mental and moral action there must be healthy physical organisms. The children of the nation spend a long portion of the formative period of their lives in its schools. Its health interests demand their scientific sanitary supervision.

The National Government should also decide who may enter its life-saving service. It requires the attainment of a certain standard or qualification to those who enter this service in the Army and Navy and Marine-Hospital. Are those who serve it in these departments any more important members of the body politic than the citizen who develops the industries of the nation, pays its expenses, makes and unmakes its officers? It may be said that they pay for the services they receive, and are capable of judging of the qualifications of those they employ. In this busy world few men acquire the knowledge that will enable them to judge of the qualification of a medical adviser. The general welfare of the United States demands that the government establish a standard of medical education which shall be attained by those who enter its life-saving service, that every citizen may know when his life is broken by disease or injury, that the government only permits those worthy and well qualified to administer to his wants. The fact that the citizen pays for the service does not exonerate the State from providing that he shall receive that for which he pays, and that its protection shall operate wherever its flag may float.

The medical college is responsible for medical education. While great honor is due to the distinguished men who, without State or National aid, have built up their medical schools, advanced the standard of medical education and performed the most important educational service known to the nation, the preparation of those who have charge of the life and health of the people, they

have too often been compelled to snatch their lecture hours from an exacting and poorly paid practice, and to lecture without the aid of the original investigation and research essential to true progress; and unfortunately, in many States, any half dozen citizens can secure a charter for a medical school and graduate whomsoever they will. Does not "the general welfare" demand that the National Government shall establish a standard of qualification, and that the State shall provide such aid to this important branch of education as will enable teachers to devote themselves to its interests?

Government is as much bound to protect the citizen against ignorant pretenders in medicine as against preventable disease, and as much bound to extend protection against disease as against death from any other cause. This can only be done through provision for original research in the investigation of disease.

While progress in preventive medicine has been slow, perhaps because of the work of medical philanthropists, who in preventing disease have limited the income of a profession that lives by curing disease, have done the work for nothing, gone afoot and paid their own fare, the progress has been sufficient to demonstrate the importance of a National department that will not only utilize the knowledge already acquired, but prosecute such further investigations as will secure richer blessings.

The enlightened statesman knows that the strength of a nation lies in the strength of its people, and that the highest function of law is the protection of their life, health and development, that "public health is public wealth." When he comprehends that the great epidemics that destroy mankind, causing untold suffering and immeasurable financial loss, are amenable to State Medicine, may we not believe that the National Government will establish *A Department of Public Health*, under whose protecting aegis it will gather the Marine-Hospital Service, the Bureau of Education, of Vital Statistics and of Animal Diseases, the Climatological and Signal Service, all that pertains to the health and development of the people, providing that, as in the Army and Navy, its appointments shall be preceded by thorough examination and made for life. In such a department there would be enrolled a body of scientists unequalled in the world, working in harmony for the highest interests of mankind—the prevention of disease, the preservation of life and the uplifting of humanity, giving dignity to State Medicine and the highest possible physical, intellectual and moral development to the nation. The most hopeful event during the past year is that a bill looking to this end was introduced into Congress. Such a department devoted to original research and lifted above political mutations, guided by the

energy and intelligence of a Hamilton, a Rauch or an Eaton, will be an honor to the nation and a blessing to the world, and will hasten the day when preventive medicine and surgery will well nigh cover the field of medicine, when health will be the rule and disease the rare exception, when "The days of man shall be three score years and ten and if by reason of strength four-score years," nay, five-score years, five times the length of his development period.

ORIGINAL ARTICLES.

THE GROWING IMPORTANCE OF CHEMICAL STUDIES IN MEDICAL EDUCATION AND IN MEDICAL RESEARCH.

Read in the Section of the Practice of Medicine and Physiology at the Forty-second Annual Meeting of the American Medical Association, at Washington, D.C., May 5, 1897.

BY VICTOR C. VAUGHAN, M.D.,

OF ANN ARBOR, MICH.

Gentlemen of the Section:—The object which I have in view in the selection of this subject is to call your attention to the present importance of chemical studies in the elucidation of medical problems. Chemical theories and discoveries have frequently in the past been of service to medicine, but they offer much greater promises for the future. With the past services you are familiar, and I desire to point out some of the most important problems which are now being investigated or which only await careful study.

The Chemistry of the Animal Cell.—With the form and size of the various cells of the animal body, both in health and in disease, we are fairly acquainted, but we must remember that these ultimate entities of life have also a physiological and a chemical history. Their function, as well as their form, is deserving of study. Upon what do they feed? What is the nature of their secretions and excretions? These and many other questions pertaining to their life history are worthy of study.

The diverse ways in which the various cells of the body and the several parts of the same cell are affected by staining reagents suggest important differences in chemical composition. The work of Miescher¹ and Kossel² has given us much valuable information concerning the composition of the nucleus of the cell. They have shown that certain compounds exist as characteristic constituents of the nuclei. These belong to the proteids, but differ from other members of this group inas-

much as the albumin molecule is not free, but combined with phosphoric acid. This combination is exceedingly loose and can be broken up by boiling with water. In fact decomposition occurs at ordinary temperature if the compound is kept moist. This substance has been called by Miescher nuclein. It has been generally supposed that the phosphoric acid in the body exists as inorganic salts. This is true of the most of that contained in the bones, muscles and blood, but not of that of the glandular organs. Kossel has shown that from 60 to 75 per cent. of the total phosphoric acid in the spleen exists as nuclein, while from 30 to 50 per cent. of that of the liver, and 50 per cent. of that of the pancreas is found in the same combination. The smaller the proportion of nucleated cells in any tissue, the smaller is the amount of nuclein. In the muscle of the adult animal the amount of phosphoric acid in combination with albumin is only 7 per cent. of the total phosphoric acid.

It will be seen from the above that the amount of organically combined phosphoric acid is a measure of the nuclear substance in a given tissue, and this can be isolated and weighed, thus giving a more exact estimate than that obtained by counting the nuclei under a microscope. This procedure can be made serviceable not only in physiological but in pathological work. Thus, Kossel finds that while the amount of nuclein-phosphoric acid in normal blood is too small to admit of quantitative determination, as much as 51 per cent. of the total phosphoric acid in leucocythæmic blood may exist in this form. Again, in the examination of pus, the chemical method will detect degenerative changes in the corpuscles before they can be recognized by the microscopical examination of unstained specimens.

However, albumin and phosphoric acid are not the only constituents of the nuclei. Nuclein, on being artificially decomposed, furnishes certain basic substances, as adenine, guanine, hypoxanthine and xanthine, which are characterized by the large amount of nitrogen which they contain. Adenine contains no oxygen, is a polymer of hydrocyanic acid, and indicates by its reactions that it belongs to the cyanogen compounds. Schindler³ has shown that 7 per cent. of the total nitrogen of the thymus gland exists in adenine. The large amount of hypoxanthine and xanthine in leucocythæmic blood arises from the decomposition of the nuclein.

Nuclein seems to be an acid which in the various tissues is combined with a base of somewhat variable composition. This basic substance is called by Kossel, "histon," and it has been designated by Miescher as a "basic pepton."

The above mentioned facts throw much light upon phenomena which have long been observed, but not understood, by histologists. The marked

¹ Med. Chem. Untersuchungen von Hoppe-Seyler, S. 441, 502. Archiv. f. Anat. und Physiologie, 1881, Anatom. Abtheil., S. 193.
² Zeitschrift f. physiologische Chemie, B. 3, S. 284; B. 4, S. 220; B. 5, S. 152 and 267; B. 6, S. 422; B. 7, S. 7; B. 8, S. 511; B. 10, S. 248.

³ Berliner klin. Wochenschrift, 1889, S. 416.

tendency of the nuclei to act as reducing agents is explained by the presence of the oxygen-free molecule of adenine, and the molecules of guanine, hypoxanthine and xanthine, whose ready transformation into more highly oxidized products is well known. The action of acetic acid on nuclei is due in part to the precipitation of the nuclein, and in part to the fact that it dissolves out the basic substance.

These researches have also been of service in the study of the function of the nuclei. Kossel has shown that after prolonged hunger the nuclein is not diminished. This substance does therefore not form a reserve food supply, as is the case with glycogen, fat, and in part with albumin. He has also demonstrated that the nuclein serves in some way yet unknown in the building up of tissue. The muscles of the young animal are rich in glycogen while those of the adult contain only traces. The fact that adenine belongs to the cyanogen group, already mentioned, is suggestive in this connection. Cyanogen bodies have a well known tendency to transform themselves into substances having a complicated constitution. Hydrocyanic acid changes, on standing, into a brown mass, known as azulmic acid, which has a complicated, and as yet unknown, chemical structure; and adenine undergoes, under certain conditions which obtain in the body, a similar transformation. This offers, at least, a suggestion as to the manner in which the animal cell accomplishes its synthetical work. The fact that adenine belongs to the cyanogen group is further suggestive in consideration of the formation of both the bacterial and metabolic poisons from proteids. Adenine itself, in quantities of one gram and slightly less, is fatal to dogs of medium size when administered by the mouth. No study of its effects when injected subcutaneously or intravenously has yet been made, so far as I know.

After a study of the facts, which I have briefly placed before you, one cannot avoid the impression that continued investigations in this line may lead to important discoveries which will be of service to us in unraveling the mysteries of cell activity. With the promise of such a reward the labor and energy of a lifetime may be given to this work. With a knowledge of the conditions under which cells multiply, of the nature of their pabulum, of the manner in which they convert foods into living tissue, what a great advantage the scientific physician of the future will have over us, his ignorant predecessors, who are yet compelled to rely so largely in the treatment of disease upon empiricism.

The intelligent chemist of to-day does not dream that by the aid of his science he will ever be able to construct a living cell, but he does hope to ascertain the conditions under which cells thrive and multiply, and those under which they

die. He may acquaint himself with the nature of their substance, and from this knowledge he may be able to supply them with proper food. He may point out to the practitioner the effects of certain therapeutic agents upon the cells of the liver and, what will be of equal importance, the action of the cells of the liver upon the therapeutic agents. We are at present wholly ignorant of the changes wrought by the chemistry of the body in the majority of the drugs which we employ. We know but little of the form in which our medicinal agents reach the diseased organ, and yet without any knowledge on this essential point we endeavor to effect the nutrition of the various parts of the body. A substance may undergo one or more marked changes in chemical composition during its passage through the body. Thus camphor ($C_9H_{16}O$) is first converted into camphorol ($C_9H_{14}(OH)_2O$) by taking up hydroxyl, and finally is eliminated from the body in combination with glycuronic acid. Not only does the camphor undergo these changes, but evidently it alters tissue metabolism. Glycuronic acid ($C_6H_{10}O_7$) is a product of beginning oxidation of sugar, and in normal tissue metabolism rapidly goes through other steps in the process of oxidation and breaks up into carbonic dioxide and water, but when brought in contact with a substance not readily oxidized, such as camphor, it is eliminated from the body unchanged. Changes in physiological action often follow from these alterations in chemical structure. A poison may be rendered inert, or an inert body may be converted into a poison. As an example of the former, the fact that a certain amount of the highly poisonous substance, phenol, is changed into phenol-sulphuric acid, which is inert, may be mentioned; while a change in the opposite direction occurs in those persons to whom a bit of egg or some article of common food is poisonous.

With some of the synthetical changes brought about by the living cell, the labors of physiological chemists have already made us familiar. The work of Bunge and Schmiedeberg* on the formation of hippuric acid might be taken as a model for similar investigations. That benzoic acid administered by the stomach appears in the urine in the form of hippuric acid was first observed by Wöhler in 1824. Historically this fact is of interest because it was the first demonstration of synthetical processes in the animal body, and was at variance with the then, and for many years thereafter, dominant theory of Liebig, who taught that all the chemical changes in the animal body are analytical. Bunge and Schmiedeberg instituted a series of experiments with the view of determining what cells of the body are concerned in the synthesis of hippuric acid. First, benzoic acid and glycocholl were injected into the dorsal

* Berliner Klin. Wochenschrift, 1889, S. 425.

* Archiv. f. Experiment. Path. und Pharm. B. 6 S. 235.

lymph-sacs of frogs from which the liver had been removed. The appearance of hippuric acid in the urine demonstrated that the liver was not, at least, the only organ in the body which synthesizes hippuric acid. It was next shown that hippuric acid is not formed in nephrotomized dogs. From this, however, it could not be positively asserted that the synthesis occurs in the kidneys, for it might be said that the removal of the kidneys had so disturbed the other organs of the body that they did not perform their functions normally. But this criticism was seen and provided for by another experiment. It was found that the passage of defibrinated blood, to which benzoic acid and glycocholl had been added through a kidney after its removal from the body, was accompanied by the synthesis of hippuric acid. It was thus shown that the extirpated kidney is capable of carrying on this synthesis. This is found to be true even after the excised kidney has been kept in a refrigerator for forty-eight hours. Then the question arose, is this synthesis accomplished by the living cell of the kidney or by some lifeless chemical constituent of the organ? Further experiments showed that the synthesis does occur if blood containing benzoic acid and glycocholl be allowed to stand in contact with a kidney which has been cut into pieces, but does not occur if the pieces be rubbed up in a mortar with glass into a homogenous mass. From this it is concluded that the activity of the living cell is essential to the performance of this function. Furthermore, it has been demonstrated that the synthesis will not occur if blood, which has been freed from its corpuscles, is employed, and the same is true if blood in which oxygen has been displaced by carbonic oxide is used.

Equally valuable with the above are the investigations of Schröder,⁶ by which he has shown that urea is in part at least formed in the liver from ammonium carbonate, and the labors of Minkowski⁷ on the formation of uric acid. Both of these experimenters have, as you know, demonstrated facts which are of importance physiologically, and which have also cleared up some hitherto unexplained observations in pathological states.

It may not be out of place to point out the desirability of another investigation similar to those mentioned above. Physiological chemists are much impressed with the theory that kreatin is one of the antecedents of urea. However, if kreatin be administered by the mouth or injected into the blood it reappears in the urine, either unchanged or in the form of kreatinin. This is supposed by some to be sufficient proof that it is not an antecedent of urea, but, as Bunge⁸ states, this is not necessarily the case, because the kre-

atin formed in the muscles may in its nascent state be converted into urea, while the same substance injected into the blood may escape this transformation. This question is one of great practical importance, and its solution promises to throw some light upon so-called uræmia, the chemical causation of which has recently received some confirmation, although the old idea that the retained urea is the active poison, and the theory of Frereichs that ammonium carbonate is the harmful substance, have both been abandoned. Landois⁹ laid bare the surface of the brain and sprinkled the motor area with kreatin, kreatinin and other constituents of the urine. Urea, ammonium carbonate, sodium chloride and potassium chloride had but slight effect; but kreatin and kreatinin caused clonic convulsions on the opposite side of the body, which later became bilateral. These convulsions continued at intervals for from two to three days, when, growing gradually weaker, they disappeared. From this, Landois concludes that chorea gravidarum is a forerunner of eclampsia. Now, kreatin is chemically, as has been shown by Volhard¹⁰ and Strecker,¹¹ a substituted guanidin, and it only needs to be converted into methyl-guanidin in order to produce all the convulsive symptoms observed in so-called uræmia. Moreover, Brieger¹² has shown that certain bacterial cells are capable of transforming the inert kreatin into the powerful convulsive poison, methyl-guanidin. The probabilities are that the cells which under normal conditions convert kreatin into urea are so affected by the accumulation of their own product, urea, which the kidneys fail to properly eliminate, that one substituted guanidin, kreatin appears as another member of the same class, methyl-guanidin, the former being a physiological product and not harmful, while the latter results from a modified and abnormal action, and is highly poisonous. I will admit that this theory has much reason in it, and I am now pointing out some of the medical problems which demand chemical studies for their elucidation, and I would suggest that an examination of the muscles of the brain of one who has died from so-called uræmic convulsions for methyl-guanidin, and a determination of the amount of kreatin in the same organ, would be a work worthy of the time given to it, whatever the result may be.

The statements made above find important support in the recent highly valuable work of Drechsel,¹³ in which he has prepared lysatin and lysatinin directly from casein, and from these, urea. Lysatin and lysatinin are homologous with kreatin and kreatinin, and on being boiled with baryta will yield urea. Although we have long

⁶ Physiologische Chemie., 2d Auflage, S. 291.

⁷ Uræmia, 1890.

⁸ Zeitschrift f. Chemie, 1869, S. 318.

⁹ Jahresbericht über die Fortschritte der Chemie., 1886, S. 686.

¹⁰ Berliner Klin. Wochenschrift, B. 24, S. 517.

¹¹ Berichte der K. Sachs. Gesellschaft, August 4, 1890.

¹² Archiv. f. Exper. Pathol. und Pharm., B. 15, S. 364, and B. 19, S. 373.

¹³ Ibid., A. 21, S. 41.

known that the urea eliminated in the urine must have its origin in the proteids of the food, Dreschel is the first chemist who has been successful in breaking up a proteid by artificial means in such a way as to produce urea. The same is true of the formation of a kreatin from a proteid. This, which may be ranked as the most important of recent contributions to physiological chemistry, adds greatly to our knowledge of the kreatin bodies, and suggests a possible solution of the relation existing between these and urea in the normal metabolism of tissue. The physiological action of lysatin has not been as yet studied, nor is it known whether or not it would reappear in the urine as urea if given by the mouth or intravenously. We may sum up the positive knowledge which we have on this point as follows: 1. A number of substances belonging to the kreatin group are formed from proteids (some in the body, as kreatin, kreatinin, cruso-kreatinin, xantho-kreatinin and amphi-kreatin, and some by artificial means, as lysatin and lysatinin); 2. Kreatin is a substituted guanidin; 3. Methyl-guanidin is a highly poisonous substance, and this is true of both that obtained from putrefying flesh and that prepared from kreatin. It produces marked dyspnoea, muscular tremor and general clonic convulsions.

That there is a marked disturbance of tissue metabolism caused by the inhalation of vitiated air has been shown by Araki.¹⁴ In the urine of animals rendered unconscious by being kept in a confined space this experimenter found albumin, sugar and lactic acid. If the animals had been kept without food for some days before being subjected to this experiment, albumin and lactic acid, were found, but no sugar appeared. This was undoubtedly due to the fact that the glycogen of the body had been exhausted by the fasting. Identical results were observed in animals, which were poisoned with carbon monoxide. Dogs which were poisoned with curare, and in which the respiratory movements were maintained artificially secreted very little urine, but the blood was found to contain considerable quantities of sugar and lactic acid. The urine of frogs in which the respiration was retarded by the production of tetanus with strychnia secreted urine containing sugar and lactic acid. In the urine of three epileptics there were found albumin and lactic acid directly after the seizure. The factor common to all these cases is diminished oxygenation of the blood, and to this is ascribed the appearance of the abnormal constituents of the urine. These investigations demonstrate the influence of impure air upon the chemistry of the living cells of the animal body.

The chemistry of the absorption of foods offers an interesting chapter in the study of the activity of the animal cell. As practitioners of

medicine we bestow much attention upon the subject of digestion. We administer acids and digestive ferments, often without effect. The manufacturing chemists flood the market with preparations of pepsin and pancreatin, with their so-called malted and digested foods, and I fear that we too often are deluded with the idea that it is only necessary to supply our patients with these ferments or foods in order to build up a worn-out body and restore strength to weak muscles and exhausted nerves. There is a popular—I fear that I might without any exaggeration say a professional idea—that peptones filter through the walls of the intestines without let or hindrance, and pour their treasures of strength and energy into the blood-vessels. However, scientific experiments have shown that this is altogether erroneous. In the first place albumin may be absorbed without having been previously converted into peptone. Voit and Bauer¹⁵ washed out loops of the small intestines in living dogs and cats, ligated both ends of the loop, injected into the loop albuminous solutions, replaced the intestine within the body, and after from one to four hours determined the amount of albumin remaining in the loop. It was found that the amount absorbed during this time was, for egg-albumin from 16 to 33 per cent., and for acid albumin from muscles, from 28 to 95 per cent. Voit and Bauer think that they proved that there was no active digestive ferment in these loops by demonstrating that the portion unabsorbed contained no peptone.

The experiments of Eichhorst¹⁶ have led him to the same conclusion, but the most positive evidence which we have on this point has been furnished by the investigations of Czerny and Latschenberger.¹⁷ In a case of preternatural anus at the sigmoid flexure, it was found that albuminous solutions injected into the thoroughly washed piece of intestine below the fistula was absorbed after from twenty-three to twenty-nine hours to the extent of from 60 to 70 per cent. Without citing further experimental evidence upon this point it is sufficient to say that it has been conclusively shown that albumins may be, and often are, absorbed to a marked extent, without previous conversion into peptone. It should be understood that I do not claim that egg-albumin is ordinarily absorbed unchanged, but as Prior¹⁸ has shown even this may occur when excessively large amounts of egg-albumin are taken in the food. (In such a case the albumin is not apparently utilized by the tissue, but acting as a foreign body, it is eliminated in the urine.) But there are many reasons for believing that in health a small part of our proteid food is never converted into peptones, but is fitted for its

¹⁵ Zeitschrift f. Biologie, B. 5, S. 362.

¹⁶ Pflüger's Archiv, B. 4, S. 370.

¹⁷ Virchow's Archiv, B. 59, S. 161.

¹⁸ Zeitschrift f. Klin. Medicine, B. 11, S. 72.

¹⁴ Zeitschrift f. physiologische Chemie, B. 15, S. 1891.

service to the animal economy during its absorption through the walls of the intestines. The active agents which render this portion fit to enter the circulating blood are not the unorganized, digestive ferments, but are the living cells of the absorbing mechanism.

There are some good arguments in favor of the theory that all the proteid which is utilized in building or repairing tissue escapes conversion into peptones in the alimentary canal, and that proteids which have been converted into peptone can serve only as a source of energy, but cannot be utilized by the animal cell in the reconstruction of wasted muscles. If the defibrinated blood of one dog be injected directly into the veins of another the amount of urea eliminated by the latter is not materially increased, but if the defibrinated blood be administered by the stomach the increased amount of urea is large and in exact proportion to the quantity of the proteids in the blood administered.

A still more important fact is the demonstration that peptone is converted into serum albumin during absorption. Should the peptones reach the circulation unchanged they act as poisonous bodies. Injected into the blood they are soon eliminated unless the quantity is sufficiently large to cause marked toxic effects. The conversion of peptone into albumin by the mucosa of the walls of the alimentary canal has been beautifully shown by Salvioli working under the direction of the veteran physiologist, Ludwig. A loop of the intestine with the attached mesentery was taken from a dog. In the piece of the intestine there was placed one gram of dissolved peptone. Then the collateral branches having been ligated, a stream of defibrinated blood diluted with salt solution was caused to flow for four hours through the attached branch of the mesenteric artery. During this time the fact that the cells of the intestine retained their vitality was shown by the active contractions of the piece. At the expiration of the given time there was no peptone either in the intestine or in the blood. A further experiment showed that peptone added to the injected blood did not disappear. Consequently the only conclusion which is warranted by the facts is that the peptone is converted into albumin during its passage from the lumen of the intestine into the blood.

That the living cells of the mucous membrane are essential to this conversion has been shown by destroying their vitality by dipping the piece of intestine into water at 60° C. After this has been done, the intestinal walls become in fact what it is generally supposed to be during life, a mere filtering membrane.

It is true that a very small per cent. of the peptone formed in the stomach and intestine is not changed into serum-albumin, but even this small amount does not exist in solution in the

blood, but is held by the white corpuscles. The reconversion of the fatty acids, set free by the action of the pancreatic juice, into neutral fats while passing into the thoracic duct is an equally important and interesting fact.

A case of elephantiasis of the left leg with a lymph fistula has recently supplied Munk and Rosenstein¹⁰ with an opportunity of studying the absorption of fats, which has been very thoroughly utilized. From their studies of this case Munk and Rosenstein have reached the following conclusions:

1. The absorption of those fats, which are fluid at ordinary temperature, reaches its maximum between the fifth and eighth hour after a meal, while the maximum absorption of those, which are solid at ordinary temperature, is reached between the seventh and eighth hours. From these hours there is a rapid decrease in the amount of fat in the lymphatics until from the eleventh to the thirteenth hour, when the lowest point is reached.

2. When fatty acids are administered they reappear in the lymph for most part in the form of neutral fats. In this case the body must furnish the glycerine, which is necessary for the synthesis of the fatty acids into neutral fats.

3. The form in which the fat appears in the lymph is determined by the nature of its fatty acid. Thus, both olive oil (triolein) and oleic acid appear in the lymph as triolein, and both tripalmitin and palmitic acid appear as tripalmitin. On the other hand if a fatty acid combined with any other alcohol than glycerine be taken in the food the acid appears in the lymph as a glycerine compound. This was demonstrated to be the case by feeding the patient upon fats consisting of a fatty acid combined with amyl alcohol and at another time spermaceti, which consists of palmitic acid combined with cetyl alcohol. In both instances the fatty acids were found in the lymph in the form of glycerine neutral fats, while no trace of either the amyl or cetyl alcohol could be found in the lymph.

From these facts it is evident that the cells of the absorbing mechanism of the intestine synthesize the fatty acids and in every case the synthesis consists in a combination of the acid with glycerine.

There are many other interesting and valuable points brought out in this research, and I commend its study to you.

It will be seen from the above that all the problems of nutrition are not yet solved, and we are now in a position to at least know why we so often fail to build up an exhausted body by the administration of digestive ferments and predigested food. Indeed, I fear that we may sometimes do harm in our zeal which manifests itself in prescribing peptones indiscriminately. It is

¹⁰ Virchow's Archiv. B. 123, S. 230 and 484.

more than likely fortunate that the majority of the so-called peptones in the market consist for the most part of acid albumins and are often wholly free from true peptones.

Here is another medical problem which demands chemical studies for its solution. What is the exact nature of the change whereby peptones are converted into serum-albumin? What are the conditions under which the cells of the mucosa act most energetically? Have we any medicinal agents which may affect this action favorably, or what is of equal importance, are we at present using any drugs which injuriously influence this activity? All of these, and many more which might be asked, are questions of great importance to us as practitioners of medicine.*

Whether or not the digestive ferments ever find their way in any considerable quantity into the blood I do not know. The older physiological chemists have taught us that both pepsin and pancreatin are normal constituents of the urine; but all the experiments upon which this statement rests were made before we had any knowledge of the bacterial ferments, and whether the peptic properties of the urine are due to ferments absorbed from the digestive organs or are products of bacterial activity in the urine after elimination, I think no one knows positively. However this may be, Hildebrandt has recently shown that the digestive ferments, when injected directly into the circulation or subcutaneously, are poisons of marked activity. The fatal dose of pepsin for dogs is from 0.1 to 0.2 grams per kilogram body weight. They produce an elevation of temperature which manifests itself generally within half an hour, reaches its maximum within from four to six hours and may continue for days. The day before death the temperature usually falls below the normal.

The chemistry of the liver has long been an interesting subject of study, and, while many im-

portant facts concerning it have been ascertained, there yet remains much for us to learn. We know that the liver converts ammonia, which should it reach the general circulation in any large quantity would be poisonous, into the practically inert substance, urea. In this organ the poisonous aromatic substances of the intestines, such as phenol, are rendered harmless by being conjugated with the alkaline sulphates.

In studying the changes wrought in the blood during its passage through the liver certain marked difficulties arise. The volume of this blood is so great that it is quite impossible at present to draw any conclusions from comparative analyses of the blood of the portal and that of the hepatic vein, except in the case of sugar. Frogs and birds live for some time after excision of the liver, or after it has been cut off from all communication from other parts of the body by ligatures, but in mammals this operation is followed immediately by death. By means of experiments upon birds, it has been shown that the bile pigments and acids are formed in the liver, the former from the hæmoglobin of the blood, and the latter by the conjugation of glycocholic acid and taurin with cholic acid. It is believed that under certain abnormal conditions blood-pigment may be converted into bile-pigment outside the liver, thus giving rise to that form of icterus known as hæmatogenous or chemical, the existence of which, however, has been seriously questioned by the experiments of Vinkowski and Naunyn. Iron is a constituent of hæmoglobin but not of bilirubin. What becomes of the iron which is split off in this transformation in the liver is not known and remains as one of the problems of hepatic metabolism awaiting solution.

Of the chemistry of the nerve cell we know, as yet, practically nothing. Hodge,² in a very interesting series of experiments has shown that stimulation of a nerve going to a spinal ganglion is followed by marked morphological changes in the cells of the ganglion. The nuclei, after being stimulated for some hours, lose forty per cent. of their bulk; the cells themselves decreased but little in size, but their protoplasm became extremely vacuolated and the nuclei of the cell capsule shrunk to a noticeable degree. He has also noticed that after the stimulation has been discontinued the cells of the ganglion slowly recover their normal condition. Stress is laid upon the fact that this recovery is very slow, and this, we who have in charge patients who are nervously exhausted, can fully appreciate. There can be no doubt that these visible changes are accompanied by chemical reactions, a knowledge of the nature of which would be of great service, and this forms another of the problems which require chemical studies for their solution. The re-

*Macfayden, Neoricki and Sieber have recently (Archiv. f. exper. Pathol. and Pharm. B. 28, S. 371) made a valuable contribution to the study of digestion. On account of necrosis, due to an incarcerated hernia, an artificial anus was formed at the junction of the small with the large intestine, the excised piece consisting of 10 centimeters of the former and 3 centimeters of the latter. The patient rapidly recovered from the operation, ate all kinds of food and discharged the intestinal contents through the artificial anus for six months, after which time the surgeon joined the ends of the intestine and the natural anus again became the point of exit.

The most important points brought out in the study of this case may be condensed and stated as follows:

1. The contents of the small intestine are constantly acid and not alkaline as has been generally taught and believed.
2. The acidity is due to organic acids produced by the action of bacteria, or the carbo-hydrates of the food.
3. Bacteria were found constantly present in the small intestine.
4. These germs have but little effect upon proteins, but they produce organic acids and alcohol by their action on carbohydrates.
5. Skatol, indol, and phenol are not formed in the small intestine as has been supposed, but in the large intestine.
6. The same is true of the place of formation of hydrogen sulphide and methylmercaptan. Preparations of bismuth are not blackened in the small intestine.
7. A large amount of fluid injected into the rectum flowed out through the fistulous opening. This happened even when 100 grams of peptone dissolved in 100 cc. of water were injected in two portions. But five eggs, when rubbed up to a homogenous mass with a 0.6 per cent. solution of common salt (the whole measuring 250 cc.) were injected into the rectum in three portions were retained and absorbed.

searches of Hodge supply a scientific basis for the rest treatment, inaugurated and practiced so ably by Weir Mitchell. When we can ascertain what food and what drugs, if any, best promote the recovery of exhausted nerve cells, another step in advance in treatment can be taken. However, this cannot be done until we ascertain the chemical alterations of which the observed morphological changes are but the outward manifestation.

I have thus briefly pointed out some of the important chemical studies of the nature and activity of the animal cell. The number of these might be multiplied many times. Indeed, in going over this part of the subject I have been embarrassed by the number of illustrations which could be offered, but I hope that these are sufficient to impress upon us a due appreciation of the possibilities which lie before us in this direction.

The Chemistry of Albumin.—Closely allied with the study of the chemistry of the animal cell is the investigation of the constitution of the albuminous molecule, for the latter is an essential part of the former. The researches of Schutzenberger²¹ and others have made us familiar with some of the decomposition products of proteid bodies, especially with those obtained by the action of acids and alkalis. Kühne and Chittenden²² have enlarged our knowledge of the digestive products, and the experiments of Schröder,²³ Minkoski,²⁴ and others have enabled us to trace some of the proteids through the animal body. Bechamp regarded urea as an oxidation of production of proteids, and thought that he had prepared the former by the action of potassium permanganate on the latter in alkaline solution. This was in accord with the doctrine of Liebig, who held that all the changes going on in the animal body are those of oxidation. However, Städeler and Loew repeated the work of Bechamp with negative results, and Lossen finally demonstrated that the substance which Bechamp had mistaken for urea is guanidine. Recently Drechsel succeeded, as has been stated, in preparing urea from casein, and in doing so he has shown that it is not an oxidation, but a hydrolytic product.

Harnack²⁵ has obtained chemically pure albumin and has shown that its properties are quite different from those manifested by the impure

bodies which we have hitherto studied. Maschke,²⁶ Schmiedeberg,²⁷ Ritthausen,²⁸ and others have formed crystalline proteids in various vegetable tissue, and Hofmeister²⁹ has given us a method of obtaining crystalline egg-albumin. With these advances it is within bounds to predict that the constitution of the albuminous molecule will soon be known. This will furnish us with the key to the arch of animal chemistry, and with this in hand, isolated facts already known, but the significance of which is not understood, will be easily placed in position, and many new and important ones will soon be discovered. The advice of Ludwig, "Study the albumins," is being followed, and will bear fruit in a better and more scientific understanding of tissue metabolism, and this will be followed by a more rational therapeutics.

A thorough study of the proteids is demanded at present, not only for the advanced physiological knowledge which it will give us, but in view of the fact that the most potent bacterial poisons belong to these bodies.*

The Value of Chemical Research in Pathological Studies.—Much of the pathological work of the future must be done by the chemist. In the first place certain chemical agents modify the growth and development of cells. This has long been known to be true in a few diseases. The influence of alcohol beverages in the production of certain abnormal conditions of the liver might be mentioned as an illustration. Chromic acid and the neutral chromates cause necrosis of the cells of the uriniferous tubules. The necrotic cells lose their nuclei, the cell protoplasm becomes a mere net-work and the dead cells from tube casts. Sodium indigotin sulphate injected into the jugular vein of a dog which has been treated with a subcutaneous injection of a chromate does not stain the injured cells of the tubules. Corrosive sublimate also destroys the nuclei of the cells of the uriniferous tubules and produces a pseudo-diphtheritic combination of the intestines. At the same time, this poison produces marked changes in the medulla of the bones and induces a general anæmia. The effects of lead on the cells of the brain have been frequently observed: Vulpius³⁰ found colloid degeneration and atrophy with multiplication of the nuclei; while Monakow,³¹ Oppenheim³² and others have reported extensive degeneration and disappearance of the cells of certain ganglia. The karyolytic necrosis of the cells of the uriniferous tubules caused by acetone has been described by Albertoni and Pileri³³ and explains the albuminuria which oc-

²¹ Bulletin de la Société Chim. T. 23, p. 161, et seq.

²² Zeitschrift f. Biologie, B. 22, S. 423 et seq.

²³ Loc. cit.

²⁴ Loc. cit.

²⁵ Berichte der Deutschen Chem. Gesellschaft.

* The study of the products formed by the bacterial splitting up of proteids will probably be of service in ascertaining the constitution of the albumin molecule. Neucki has found that certain anaerobic germs produce from albumin the three aromatic acids: 1, phenylpropionic, 2, paraoxyphenylpropionic (hydroparacumaric), and 3, skatolacetic. From this he concluded that the albumin molecule contains preformed, not two, but three aromatic groups, tyrosin, phenylamidopropionic acid, and skatolamidoacetic acid. With this view accepted, the occurrence of the various aromatic substances, which have been found in the excretions and in putrefactive processes, becomes easy of explanation.

²⁶ Botanische Zeitung, 1859, S. 441.

²⁷ Zeitschr. f. physiologie Chemie., B. 1, S. 205.

²⁸ Journal f. prak. Chemie., N. P. B. 25, S. 130.

²⁹ Zeitschr. f. physiologie Chemie., B. 1, S. 205.

³⁰ Leçons sur les maladies du Syst. Nerv. T. 2, p. 267.

³¹ Archiv. f. Psychiatrie, B. 10, S. 495.

³² Real-Encyclopædie von Eulenburg.

³³ Archiv. f. Exper. Pathol. und Pharm. B. 23, S. 392.

curs in severe cases of diabetes mellitus. The ill effects of some preparations of digitalis is explained by the well demonstrated, poisonous action of digitoxine on certain cells. The destructive effects of many chemical substances such as the arsenide of hydrogen, bile acids, etc., on the blood corpuscles is well known.

These and many other substances which might be mentioned, cause marked changes in the cells of the living body, and new interest is now attached to this point by the discovery of the fact that some of the ptomaines, those of cholera for instance, manifest their activity in this direction. Since it is now generally conceded that all pathogenic germs induce their characteristic effects by virtue of chemical poisons which the microorganisms elaborate, the chemist and histologist must become co laborers in pathology. The bacteriologist will discover, isolate and study the life history of the germ. The chemist will isolate the active poisons produced by the germ. The physiologist will study the effects of these poisons. The histologist will make us acquainted with the morphological changes produced in various organs. Finally, let us hope, the therapist will gain from all these contributions some information which will make the practice of medicine both more scientific and more successful than it is to-day.

In the second place, we have positive proof that under some abnormal conditions the chemical activity of the living cell is perverted. This perversion may manifest itself, 1 by an abnormally abundant production of certain compounds, 2, by failure to produce changes which are affected in health, and 3, by the elaboration of new products.

The increased tissue metabolism of the acute fevers, in poisoning with phosphorus, arsenic, antimony, carbon monoxide and chloroform, and in carcinoma, are illustrations of the first of the above mentioned facts. In health the amount of nitrogen in the ingesta and that in the egesta are practically the same. This normal condition of "nitrogen equilibrium" is disturbed in the above mentioned abnormal states. The agent which causes this increased disintegration in the albuminous molecule is certainly not the same in all cases. In many, its character remains unknown and we must depend upon the researches of the chemist for information in this important field of pathology.

The abnormally large amount of uric acid and allied bodies in the urine in leucocythæmia is undoubtedly due to the increased number of nuclear cells, but what the active agents are which lead to the excessive formation of nuclear tissue we do not know. However, that they are chemical in character is suggested by the fact that a leucocythæmic condition is produced in some of the acute infectious diseases (diphtheria for in-

stance) in which the actual *materies morbi* is a chemical poison.

The fact that cells under abnormal conditions may fail to elaborate their normal products is shown by the absence of hydro-chloric acid in the secretions of the stomach in cancer; while the appearance of acetic acid, oxybutric acid and acetone in the urine in diabetes mellitus is an illustration of the formation of new products in disease.

The causes of coma in diabetes, pernicious anæmia and carcinoma are unknown. That this coma occurs without any recognizable morphological lesion in the brain has been proved by Oppenheimer,³⁴ and the fact that all of these diseases are accompanied by increased metabolism of the nitrogenous tissue renders it highly probable that the nervous symptoms are due to the action of a chemical agent.³⁵

THE TREATMENT OF THE FIRST STAGE OF ACUTE LOBAR PNEUMONIA.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May 5-8, 1891.

BY J. W. SMALL, M.D.,

OF NEW YORK, N. Y.

FELLOW NEW YORK COUNTY MEDICAL ASSOCIATION; FELLOW NEW YORK STATE MEDICAL ASSOCIATION; FELLOW AMERICAN MEDICAL ASSOCIATION; FELLOW NEW YORK ACADEMY OF MEDICINE.

In an editorial article in one of our leading medical journals an eminent writer has recently said that the "treatment of acute lobar pneumonia is still a reproach to our art, even more so than phthisis pulmonalis, and there is no subject which deserves more earnest study." To the truth of this statement every practical physician who reads the current literature upon this subject can testify. The pathology of this disease is indeed very well understood, but the diversities in the methods of treatment applied are almost as many as the physicians who employ them.

In presenting this subject for your consideration in this paper, I propose to deal only with the first stage, or that preceding the stage of red hepatization. The very simple treatment outlined does not, indeed, do any harm, but often much good, if used after the affected portion of the lung is solidified, but of that I do not propose to treat, but simply record the results of my own experience in treating the first stage as a local congestion and inflammation of lung tissue. So many methods have been tried and remedies used to abort this disease, that it would be impossible for me to enumerate all of them, but I will consider a few before describing the very simple method of treatment with which I have succeeded in ar-

³⁴Churite Annualet, 1888.

³⁵It was the intention on beginning this paper to devote a considerable portion of it to the chemistry of therapeutics, but this subject is now reserved for a future paper.

resting it. And my method is so simple that I fear many of my professional brethren will throw this paper by with a feeling of contempt; yet not, I hope, until they have made a thorough trial of the method described. Is it not a fact, my brethren, that we are too apt to overlook those simple remedies and methods of treatment with which we are perfectly familiar, and reach out for these specifics with large-sounding names which are recommended by those high in the profession, and which we so often find to be fallacies that sadly disappoint us. The name of a Brown-Séquard or a Koch has a peculiar fascination for us, while the patient life-work of a humble practitioner, containing practical lessons of the richest value, is entirely overlooked and soon forgotten.

Probably the remedy which has been most frequently tried to abort this disease is quinine, given in doses of from 10 to 100 grs. and repeated *ad libitum*. This has no doubt been given with the idea that the disease is one of malarial origin. But Dr. J. H. Ripley, in a paper read before the New York Academy of Medicine, and reported in the *Boston Medical and Surgical Journal* for 1887, Vol. cxvi, p. 212, has shown us that he has found by careful experiments made at St. Francis' Hospital, that quinine does not abort the disease and does not act as an antipyretic, but has a bad effect upon the appetite and digestion, is liable to produce cardiac weakness, profuse cold perspiration and profound nervous debility. This testimony is corroborated by Dr. H. Corson in the *Medical and Surgical Reporter* for 1887, Vol. lvi, pp. 644-647. My own experience has not been favorable to its use in the first stage of this disease.

Dr. H. S. Duncan, in the *Nashville Journal of Medicine and Surgery* for 1885, Vol. xxxv, pp. 154-160, recommends blisters on the affected side with calomel and veratrum viride. This treatment has been largely used by physicians, but never to my knowledge with the effect of shortening the disease, but may modify its severity. Dr. F. L. Benham, in the *Medical Times and Gazette*, London, 1885, Vol. 1, pp. 73-76, makes an argument in favor of blood-letting and antimony—withdrawal at the first venesection from 10 to 12 ozs. of blood, and repeating the process in from twelve to twenty-four hours. This treatment is based upon the old-fashioned antiphlogistic theory of blood-letting for inflammation, but is not claimed to abort the disease, but simply modify it. To the employment of venesection in any form I should have very serious objections, as I consider it a measure calculated to produce extreme prostration of the system by depriving it of what little vital fluid is left after its depletion by the disease, and after the commencement of the second stage I regard it as positively dangerous.

Some writers in the *London Lancet*, and Dr. Frieandt, writing in *Duoodecim*, a Finnish medical journal, have advocated the application of ice lo-

cally over the affected portion of lung by means of rubber bags filled with it, and giving opium expectorants and stimulants internally. With this treatment it is claimed that only three deaths occurred in one hundred and six cases, but it is not claimed that it materially shortens the disease.

In a case reported in the *London Lancet* for 1889, Vol. 1, p. 730, Dr. H. E. Counsell shows the apparent abortion of pneumonia in its first stage in a patient aged 21 by a single dose of 15 grs. of antipyrin given at bedtime. As this is the only case which I can find recorded where the inflammation has been broken up, and as it so much resembles many of my own cases, I have strong hope that this class of antipyretics may render valuable assistance in the treatment of this disease.

I will now give in detail my own theory and practice in this disease; one which I have used for twenty years and in several hundred cases, and, when the patient has been seen before the second stage, with always the result of breaking up the disease within twenty-four or forty-eight hours.

Upon the causation and pathological character of pneumonia all medical authorities are well agreed. Previous to that time when the air cells become occluded with an inflammatory exudation consisting of fibrillated fibrin, pus cells, red globules and changed epithelial cells, the affected portion of lung tissue is in a state of active congestion or pulmonary engorgement. Could we examine the fine capillary blood-vessels of the alveoli and minute bronchi, we would find them distended to their utmost capacity with blood, venous blood, which instead of passing through the pulmonary circulation and becoming oxygenized, remains localized, thus impeding the process of respiration and taking on inflammatory action. The temperature of the affected portion of lung is far above normal; its action is obstructed so that it is impossible for the blood to become aerated, and the only relief which can possibly come to the overburdened lung tissue is that which Nature offers by throwing into the alveoli and bronchi the inflammatory products of the blood, thus placing the affected part at rest while Nature takes time to undo the mischief she has wrought in her efforts for self-preservation. But is there no way to bring relief to the overburdened lung except the one which Nature adopts? I answer positively, yes. There is a way, and a certain way, to remove this localized congestion, if made use of before these pathological changes have taken place which fill the alveoli and bronchi with inflammatory products, and it is accomplished upon the well known principle that congestions within the thorax or abdomen are always relieved by actively stimulating the venous and arterial capillary blood-vessels upon the surface of the body and at the extremities. This active stimulation

of the surface capillaries quickly removes from the part the blood pressure by bringing the blood to the surface of the body and thus equalizing its circulation. In order to accomplish this practically I have prepared a tub or pail partially filled with hot mustard water. Seating my patient on a chair, or the edge of the bed, I have him thoroughly covered with blankets. Then I have the feet, legs, thighs and arms thoroughly rubbed with the hot water, using it as hot as it can be borne and gradually working the feet into it, rubbing them until quite red; then putting the patient into bed and covering warmly with blankets, with a rubber bag or jug filled with hot water at his feet. I then have made three large, hot poultices of flaxseed meal, or rye flour well sprinkled with mustard and a little ginger and covered with a piece of thin muslin. One I have placed over the thorax in front, one behind, between the shoulder blades, and the third upon the affected side over the region of the pain. I keep my patient well covered with an extra quantity of bed clothing, being very particular to have him keep his arms and hands well covered, and watch results. In from one-half hour to two or three hours he will be in a profuse warm perspiration, and in from twelve to fifteen hours the pulse, respiration and temperature will be reduced to nearly normal. In the great majority of cases I believe this treatment alone sufficient to break up the congestion and pyrexia if adopted early. But it has, usually been my practice as soon as my patient is in bed after the foot bath to give a powder composed of equal parts of nitrate of potassa and Dover's powder—for an adult five grains of each, and repeat in three hours if free perspiration does not occur. I have recently obtained good results from a powder of fifteen grains of antipyrin used once, but not repeated, as I have found the repetition apt to produce an unfavorable action upon the stomach and great depression. In fifteen minutes after giving the powder, I commence with tr. aconite rt., in doses of from grt. ss. gtt. iss., with spts. æth. nit. gtt. xv and water to one teaspoonful. These doses I give every half hour or hour as the urgency of the case demands until I have given six or seven doses, then repeat at intervals of two hours. With children, instead of the poultices of flaxseed and mustard, I have used onions and lard with excellent results. In other respects their treatment has been precisely similar. This treatment, when used early, I have never known to fail, and I have sometimes used it with success two days after the initiatory chill. When called to a patient in the afternoon or evening I have found the next morning the pulse reduced from 120 to 80 or 85, the temperature from 103° to 99° and all symptoms of fever disappearing within the next twenty-four hours.

THE TREATMENT OF SPASMODIC ASTHMA.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second annual Meeting of the American Medical Association, held at Washington, D. C., May 5, 1891.

BY J. F. JENKINS, M.D.,
OF TUCUMSEH, MICH.

In dealing with this subject, it will be unnecessary for me to enumerate the many remedies which are in vogue in the treatment of this obstinate and distressing disease; neither will it be necessary to mention the beneficial results which are often produced upon the patient's health by a change of climate.

My object in the preparation of the paper is to bring to your notice a remedy which has, within the last few years, been prescribed for the purpose of mitigating the attacks of asthma. The remedy alluded to is *euphorbia pilulifera*, a plant which grows by the way-side in Australia, and which, according to Australian medical literature, has been used as a domestic remedy in the treatment of asthma and bronchial affections by the inhabitants of that island.

The universal experience of all who have practiced the healing art for a number of years is, that old and tried remedies frequently fail to give relief, and we are frequently driven from one remedy to another, in order to mitigate the sufferings of a patient who is undergoing an attack of spasmodic asthma, and who is bound to get relief, if not from the profession, he will seek the advertised charlatan, or the quack nostrums of the day.

In order to make my remarks as brief as possible, and to make this paper practical without being verbose, it will be necessary to give the clinical history of a few of the cases which have come under my observation, and have been treated by this drug.

Case 1.—George S., age 45 years. Came under my observation January 9, of this year. He states that he has had frequent attacks of asthma during the past ten years, and during the last three years, the paroxysms have been more frequent and severe. After a careful examination of the chest, there was no evidence of structural changes in either heart or lungs. The kidneys were in a healthy condition, the appetite good, and the bowels regular. In fact, he was in the enjoyment of good health (as he expressed it), if it were not for these periodical attacks of asthma. He was ordered a mixture of equal parts of the fluid extract of *euphorbia pilulifera* and glycerine, with directions to take a teaspoonful every four hours during the day, and to report in the course of a week or ten days. When he returned to my office, he stated that he slept well at night; has had no return of paroxysms of asthma; found one or two teaspoonfuls

a day sufficient to ward off the attacks. States that he has not slept so well for years.

This patient has been under observation up to within a few days, and has been thus far relieved from the annoying paroxysms of asthma.

Case 2.—Mrs. Z., age 50 years. An American by birth. Has usually had fair health, but during the past seven years has had frequent attacks of asthma. During the past year, she states that the attacks have been more frequent and severe, especially during the autumn and spring. No organic disease of either heart or lungs could be detected upon examination of the chest. There were no structural changes in the kidneys. Appetite and digestion fair. This patient had been previously under treatment for asthma, and at that time the paroxysms were mitigated by a combination of *grindelia robusta* and iodide of potassa. At this time she was given a mixture of the fluid extract of *euphorbia pilulifera* and glycerine, equal parts, of which she was to take a teaspoonful every four hours during the day, and in the course of a week to report. When the patient returned to my office she stated that the paroxysms of asthma had ceased under the influence of the medicine, and that she had rested quietly all night in the recumbent posture, while heretofore it was impossible to sleep without being propped up in bed.

Case 3.—Mrs. A., age 43 years, weight about two hundred pounds. American by birth. Has frequent attacks of asthma. Heart and lungs sound. Appetite and digestion good. Suffers more from asthmatic attacks during autumn and winter than any other seasons of the year. Frequently obtains relief by inhaling the fumes of burning nitre of paper. Prescribed the fluid extract of *euphorbia pilulifera* and glycerine, equal parts, of which the patient was to take a teaspoonful every three hours. Her husband reported that the medicine had no effect on the paroxysms of asthma, and that his wife's asthmatic breathing was relieved by smoking cubeb cigarettes.

Case 4.—Miss R., age 13 years, has suffered from asthma from early childhood. Has received treatment from all sorts of physicians, from the cultured physician as well as the travelling mountebank, and has obtained very little benefit from any of them. No organic disease could be detected of either heart or lungs, upon examination of the chest. No structural changes in the kidneys. Appetite and digestion fair, and the patient well nourished. She was prescribed a mixture of equal parts of the fluid extract of *euphorbia pilulifera* and glycerine, with directions to take a teaspoonful morning, noon, and night. Her mother reports that the daughter has breathed better, and suffered less from asthma than at any period for several years.

Within the past year thirteen cases of spas-

modic asthma have come under treatment, and in each case the fluid extract of *euphorbia pilulifera* has been prescribed with satisfactory results, except in one or two cases where it failed to relieve, although no cause could be assigned for its failure. There were no complications, but the drug failed, like many others which have a decided influence in the treatment of spasmodic asthma. In one instance, where mitral lesions were present, a pill containing one one-hundredth of a grain each of trinitrin and strophanthin, night and morning, in connection with half a drachm of the fluid extract of *euphorbia pilulifera* every four hours during the day, gave the patient relief from the paroxysmal attacks of asthma, which were no doubt of neurotic origin.

Finally, permit me to briefly state the conclusions arrived at by Dr. John Aulde, of Philadelphia, who has prescribed *euphorbia pilulifera* in twenty-five cases of spasmodic asthma: "*Euphorbia* is a remedy of special value in the treatment of all forms of asthma. In the absence of organic changes in the pulmonary and renal structures, and when the atmospheric conditions are favorable, relief will usually be afforded after taking the first dose. Being excreted largely by the liver and kidneys, the condition of these organs must be taken into consideration when estimating the probable effect of the drug. It has no special action in controlling the sudden attacks, but may be depended upon in young and robust individuals to effect a radical cure, providing they will continue to reside in an atmosphere that is dry and bracing, situated in a moderately elevated locality, where there are no, or comparatively few, sudden changes."

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

The late Mr. Richard Middlemore—The Statistics of the German Government on the Koch Remedy—The Oldest Living Surgeon—Prof. Victor Horsley on Hydrophobia—The Effects of Fog on the Manchester Atmosphere—Discussion on Strangulated Hernia—Report of the Trustees of the Peabody Fund.

Mr. Richard Middlemore, of Birmingham, who died in his eighty-seventh year, was a leading ophthalmist, and author of a treatise regarded as the handbook of ophthalmology, to promote the knowledge and practice of which in Birmingham he contributed with his efforts and his purse. In 1877 he founded a prize to be awarded triennially by the Council of the British Medical Association, for the best essay on "The Scientific and Practical

Value of Improvements in Ophthalmic Medicine and Surgery."

Official reports on Dr. Koch's much contested remedy somewhat correct the reaction which has set in against the treatment. The German Government has obtained statistics from fifty-five hospitals, where during eight weeks 2,172 patients were treated with 17,500 injections of the lymph. The maximum injections for one person were fifty-four, and the largest dose 3.26 grams. Of 1,061 patients suffering from internal tuberculosis 13 were cured, 171 much improved, 194 slightly improved, 586 no better, and 46 died. Out of 708 sufferers from external tuberculosis 15 were cured, 148 much improved, 237 slightly improved, 268 no better, and 9 died. Owing to the reported failures, the "tuberculin" is in little demand from the Berlin chemists, while at Madrid the committee appointed to examine the treatment have checked any further experiments. The only success reported from Spain is stated to have been with lepers and persons suffering from lupus of the face.

Mr. William Salmon, of Prullyn Court, Cowbridge, Glamorganshire, has just attained his 101st birthday. Mr. Salmon is the only known centenarian Freemason, and there can be little doubt that he is now the oldest member of the craft. Mr. Salmon is also thought to be the oldest living member of the Royal College of Surgeons. He was born March 16, 1790.

Professor Victor Horsley has given a discourse at the Royal Institution on "Hydrophobia." The professor began by remarking that it was Pasteur who first proved that hydrophobia was due to a "germ." These germs, when numerously developed in a dog, might be communicated by the saliva, but it had been observed that dropped saliva speedily lost its power of communicating rabies on drying. The time from inoculation to the development of the disease was not less than six weeks, but it might be two years, and it was this dreadful suspense that formed one of the horrors of receiving a bite from a dog suffering from rabies. Professor Horsley considered there were two well-marked, distinct forms of hydrophobia, the excitable and the comatose. In rabbits it always took the comatose form. Dogs might have either form, and at the Brown Institute and the Dog's Home he had studied both forms. In the furious form an animal, however domesticated, runs away, and it was by these stray dogs that the disease was spread. The professor gave some details of the symptoms a dog shows, and alluded especially to the entire change in appetite. The professor pointed out that wherever the muzzle had been long in force the disease had been stamped out. A diagram for English deaths showed that there was a fall in deaths from rabies after 1885, when the muzzle was obligatory, and a rise after 1886, when the order

was withdrawn. There was also a fall after 1889, when the muzzle was again ordered. The experience of Vienna was the same. Prussia had maintained the muzzle, and had but two deaths when in England there were eighty. He hoped the Government would re-order the muzzle. When rabies had once developed there was no known cure. Pasteur's method of inoculation, he said, had saved 94 per cent. of bitten people from having rabies.

The effects of fog have been very disastrous this winter on the Manchester atmosphere. According to observations taken during three days of fog, nearly six hundred weight of sulphuric acid per square mile was deposited around the Infirmary, besides two hundred weight of hydrochloric acid and two tons of blacks. The leaves of plants growing out of doors near the hospital yielded a deposit of from 6 to 8 per cent. of sulphuric acid, and 5 to 7 per cent. of hydrochloric acid.

In a discussion at the recent meeting of the Royal Medical and Chirurgical Society on the treatment of strangulated hernia when the intestine is gangrenous or ulcerated, Mr. Treves, referring to the occasion in 1885 when Mr. Mitchell Banks had brought up the same subject, said everyone must have been struck with the remarkable differences of opinion then expressed. No doubt this was due, he thought, to the fact that in any individual's experience such cases were comparatively rare. The statistics of mortality between the old method and primary resection were not comparable. The first series with a mortality of 90 per cent. was absolutely perfect, being taken straight from hospital records, but the second, taken from McCosh's tables, with a mortality of 50 per cent., were selected cases. Mr. Treves thought the mortality after resection was at least 90 per cent., for if the mortality after resection was only 50 per cent. it would be about the same as that of the ordinary operation. It was highly improbable that it was no more dangerous to resect than to open the sac. Surgical instinct was always opposed to resection, although the two first recorded cases—the first by Ramdorh, in 1727, and the second by Arband, in 1732, which represented the old method, were both perfectly successful. Mr. Dean, of the London Hospital, looked up for him the cases of strangulated hernia which he had operated upon; there were 73 in all. Of these six were gangrenous and all had died. Two were left on account of there being general peritonitis. In one the bowel was opened and in the others the whole of the gangrenous parts, two inches, three inches, and eighteen inches respectively he had resected. In McCosh's tables the average duration of the operation for resection was from one and a half to two hours, and often had to be performed when the parts were bathed in putrid pus. He thought that in

acute intestinal obstruction the less done the better the result, as the patients were not dying of gangrene but of obstruction. Mr. Treves went on to say that he had come to the conclusion that the best and simplest way was merely to open the sac and divide the stricture so as to relieve the obstruction. If the intestine was found to be gangrenous it should be brought gently down and attached by sutures to the abdominal wall and then either open the gut or let it open itself. To pull down the gut he had found to be a very dangerous proceeding.

To read the twenty-sixth annual report of the trustees of the Peabody Fund is to realize what a gigantic work it is to properly house the poor of London. Mr. Peabody's benefactions amounted to a total of £500,000. To this round sum the trustees have added by way of rent and interest £523,446, and they have expended in all, including money borrowed, £1,233,845. The result is the provision of 11,275 rooms occupied by 20,462 persons. The average rent paid is 2s. 1½d. As a rule the health of the model dwellings is better than that of London generally, but owing to the epidemic of last spring, from which many of the tenants suffered, the death-rate in 1890 is slightly above the average of the metropolis.

The Chair of Anatomy at the Royal Academy has been conferred upon Mr. William Anderson, of St. Thomas' Hospital. Mr. Anderson was for some years medical director of the Imperial Medical College of Japan, and is well known as the author of a classical work upon the early Japanese artists.

The Hospitals' Association has just established their fiftieth street ambulance station in the portico of the Royal Exchange. The Association is now largely extending its organization and the committee have under consideration the establishment of twenty-seven additional stations suggested by the chief commissioner of the metropolitan police, on the recommendations of the superintendents of the different divisions. These stations are in various quarters of the metropolis, but mainly in the East End, in which district the association's organization is as yet least complete. The completion of these new stations will see the whole of London furnished for the first time with a complete street ambulance service.

TO REMOVE THE PIGMENTATIONS OF PREGNANCY.

In the *Journal de Médecine de Paris*, January 4, 1891, the following ointment is recommended to be rubbed into the affected parts twice daily to remove the pigmentations which so often disfigure pregnant women:

- R. Cocoa butter.
- Castor oil, aa ʒ ij ¼.
- Oxide of zinc, gr. v.
- Yellow oxide of mercury, gr. ij.
- Essence of roses enough to perfume.

STATE MEDICINE.

Michigan State Board of Health.

The annual meeting of the Michigan State Board of Health was held at the Capital, Lansing, Mich., April 14, 1891. Prof. Fall, Drs. Avery, Hazlewood, Vaughan and Baker were present. Dr. Avery was reelected president.

DR. VAUGHAN reported that, at the State Laboratory of Hygiene, he has made analyses of all the different kinds of baking powder found in the market, also of one hundred and twelve samples of water from different parts of the State, and that he was ready to report the results, also of his researches on typhoid fever.

DR. BAKER reported that he had worked out the cause of influenza. He said its greatly increased prevalence during the last three months is alarming because so many other diseases follow that disease, and increase after it increases, the diseases which so increase being consumption, pneumonia, cerebro-spinal meningitis, rheumatism, osteo-myelitis, etc., influenza seeming to bring in its train all of these most important diseases. Dr. Baker explained the causation of influenza. He stated that the germs of influenza are generally, at all times, present, and the germs of pneumonia, tuberculosis, and of the other specific diseases are somewhat widely disseminated; but that there must be certain coincident meteorological conditions to irritate the throat and air-passages sufficiently to let the germs gain an entrance to the body. These meteorological conditions in this instance, were the excessive prevalence of north and north-east winds, and the excessive amount of ozone during the past three months.

The prevention of influenza and of the coincident rise in the other more dangerous diseases, has not been possible, because of ignorance of the causes. Now the causes are known, and the study of the measures for the prevention can begin.

How to get more thorough disinfection after contagious diseases, was brought up by Dr. Hazlewood, also by letter from Dr. Nicholson, of the Upper Peninsula, and also by other correspondence of the office of the board. It seems to be made plain that, if the Bill now before the Legislature (Senate Bill 257, House Bill 640) shall become a law, making a small appropriation to enable the State Board of Health to send an inspector to the localities where most needed, to aid in the final disinfection after cases of dangerous diseases, the spread of those diseases can be very greatly lessened, and hundreds, and possibly thousands of lives can be saved in Michigan in every year.

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, MAY 23, 1891.

THE ADJOURNED MEETING OF THE TRUSTEES.

The Trustees of the Association met in Chicago on Wednesday, May 13th, all being present except Dr. Shoemaker, who was represented by proxy. The question of appointment of Editor being taken up, Dr. J. C. Culbertson, for many years editor of the *Lancet and Clinic* of Cincinnati, was placed in nomination and received the unanimous vote of the Trustees.

Dr. Culbertson was also instructed to act as Business Manager.

On Thursday, May 14th, the Trustees, in company with the newly elected editor, inspected THE JOURNAL office, and he was formally placed in charge.

The Trustees bespeak for Dr. Culbertson the same kindly consideration that has been extended to his predecessors, and they feel sure that the results of the new management will show the wisdom of their selection.

By direction of P. O. Hooper, President of the Board. JOHN B. HAMILTON, Secretary.

MEDICINE AND THEOLOGY.

It is in the best sense commendable for every physician to join some church of his choice, and by example and act, do all he can to build up the higher life of the community, and also encourage its ethical culture and growth. When the physician becomes a church partisan, and ar-

dent defender and propagator of certain creeds or doctrines, he must to some degree lay aside his scientific training and reputation. When, on the other hand, the physician ignores all church influences, and assumes skepticism and doubt, sneering at all church efforts, and teachings of the Bible, he very clearly exhibits his narrow judgment and scientific incompetency.

The physician should never forget that he should be a student of all science, in the broadest meaning of that term. In that position he must accept the general facts and principles of theology, as clearly settled as any other knowledge in the world. He may not be convinced of this or that form of church doctrine, or interpretation of Biblical teachings, but he should ever hold the subject open for further evidence, and always show a readiness to hear all sides of the topic.

The majority of medical men have long ago taken this position, and where they do not become active members of some regular church, are reverential believers and supporters of the fundamental principles of Christian religion. It is only the minority, which happily are growing less every year, who are skeptics, and who hide their weakness under the pitiful expression of *Agnosticism*. These men are always urging the idea of conflict between science and religion, which every true student of science denies, and every new truth of nature flatly contradicts. Learned theologians and scientists find no conflict or clash of the great truths of nature and theology; only the small, weak, half-learned men are troubled by such possibilities.

Medical men are more fortunately situated than others to realize and understand the higher ranges of physical and physiological laws, which are active in the formation of life and character, and the many unknown forces which enter into the religion of life in its higher sense. We believe no class of professional men are more reverential and so profoundly impressed by the operation of nature's laws, and the spirit forces of the world.

A noted New York surgeon whose reckless, abrupt manner was the subject of comment, was giving a clinical lecture when the patient suddenly died. Being a jocular man, who saw the grotesque in all things, every one was hushed in expectation of some remark. He stood silent a few moments, then turned to the class with tears in his eyes, and in a choked voice said: "You

have witnessed a phenomenon which will be a reality to each one of you, some day. If you are true men and live right, it will be welcomed, and not dreaded," and walked out.

These remarks are suggested by the sad comment of a noted college President, that medical men are becoming more skeptical and dangerous to the growth of ethical truth. In reality this is the exact opposite of the facts. Statistics will show that more physicians are both active and passive church members, than ever before. In every town and city in the country medical men will be found actively supporting almost every Christian and philanthropic movement for the elevation of the people. The real students of all the writings of DARWIN, HUXLEY, SPENCER and others, will never be skeptics or obstructionists to ethical truth. The half-learned are the only dangerous men. Medicine and theology will never be in conflict or suffer except from this class. Both medicine and theology are rapidly changing, and breaking away from much of the narrow superstition of the past.

The province of the physician is more and more a teacher, and less a dealer of drugs. The clergyman is coming nearer the physician, and both are pointing out and applying the higher laws of physical and spiritual life, and urging men to live in accordance with them. The highest form of theology points out the realm of the spiritual, from the physical, and shows the laws and forces which govern the life here and hereafter; and the highest form of medicine indicates the reign of physical laws, their scope and influence, over organic and tangible life.

While theology carries the range of study farther on, it is no less obscure or doubtful than medicine of to-day. The dogmatic medical man who assumes that he possesses positive knowledge of physiology, pathology and therapeutics, is on the same range of the theologian who teaches the completeness of all spiritual truth. Both are incompetent to judge of the range of study of the other, and both fail to comprehend the spirit of truth, or understand the great principles of evolution and growth, and human conceptions of truth.

The unfortunate church war which is going on in an Eastern city, in which a number of physicians have become involved, has no medical or theological significance, but merely reflects the

weakness of both sides, and can result in no possible good whatever. Toleration, generosity, a spirit of benevolence, and full recognition of the right of private belief, should exist in both clergymen and physicians. Happily this is the rule, of which only a few exceptions occur. The clergyman and physician should draw nearer with every advance of science. The mutual influence of one upon the other would go far towards elevating the race and lessening the tides of disease and misery.

THE PROBLEM OF WATER PURIFICATION.

Perhaps the most important sanitary question now pressing for solution is that of a pure water supply for our towns and cities. As this country becomes more populous, the streams and lakes receive more refuse and sewage, until the purification of the water supply for a given locality has become the crying need. Statistics show that at least 55 per cent. of the waters supplied to cities and towns are obtained from surface sources and are necessarily liable to more or less contamination. Various remedies have been sought for this condition, the most practical thus far suggested is to prevent the contamination, by carefully guarding the lakes or rivers from which the supply is obtained. It is at once apparent that only a certain degree of security is reached in this way, as it is clearly impossible to perfectly guard an extended water shed.

Aside from organic or infectious pollution, surface waters frequently contain fine particles of inorganic matter in suspension, or they are more or less discolored and so rendered unsightly and distasteful. This is especially true of many river waters, even when they are wholesome so far as health is concerned. Natural springs with deep wells have been considered the best sources of water supply, but unfortunately their range is limited and they offer no practical solution of the water supply of our larger towns. If we consider for a moment the sources of spring water we find that it was originally precipitated upon the surface, but as it percolates through the sand, gravel and stratified rocks it gradually loses its suspended matter and becomes clear and sparkling. The earth acts as a great natural filter and waters found at any considerable depth are usually free from dangerous contamination, unless there has

been sufficient pollution of the surface to extend some depth into the soil.

In the treatment of polluted waters this natural process should as far as possible be imitated, and we believe that it is precisely upon these lines that the solution of our water supply problem is to be reached. Filtration, however modified, has always been based upon one principle, that of forcing water through a substance with pores sufficiently fine to entangle the suspended organic and inorganic matter. Almost every conceivable porous substance has, at one time or another, been used in filtering water. These, however, may be divided into two classes: first, those consisting essentially of a porous plate or bed, such as sandstone or unglazed porcelain; and secondly, those in which a porous mass is formed by a substance in a fine state of subdivision, such as sand, gravel or charcoal. So far as we know, the first class have never been used on a large scale, though good results have been obtained where but a limited supply of water is required. The chief objection to filters of this class is that the interior of the bed or plate cannot be cleaned. Laboratory experience shows that bacteria soon make their way through plates of this kind. A further serious objection is that they cannot be adopted for the filtration of water upon a large scale.

The sand filter in its various modifications is the only one that has been adopted in the filtration of waters for towns and cities. Excellent results may be obtained by simple beds of sand, allowing the water to flow over the surface and percolate through to a suitable collecting chamber below. Filters arranged upon this plan purify most of the water supplied to the city of London. The chief objection to gravity sand filters is their great size, and cost of maintenance. The outer layer of sand must be removed every few days and fresh sand substituted; and, unless the bed is carefully prepared and the water evenly distributed over the surface, crevices will form, through which the water flows without filtration.

A modification of the sand filter is one in which the bed is surrounded by a shell, and the water is forced through by hydraulic pressure; this force if sufficient forms the sand into an evenly resistant compact mass, comparable to a very soft sand-stone. A filter constructed upon these principles and filled with fresh clean sand will

give a pure sparkling water for some hours, but the outer layers soon become foul and clogged, and little or no water can be passed through; it is therefore necessary to either renew the sand, or to have some means of thoroughly and efficiently cleaning it. It is just at this point that inventors and engineers have failed. It is apparent that a filter constructed upon such principles, if the bed cannot be thoroughly cleaned, is worse than useless, it becomes indeed a positive source of danger; it is this defect that has rendered some of the devices now on the market worthless.

It has been demonstrated that a simple bed of sand arranged in this way will remove all suspended matter and most of the bacteria. Can we not look for mechanical devices that will easily and cheaply cleanse this sand? This once accomplished, one of the greatest sanitary problems of the age will be solved, and public health have taken a long step in advance.

EDITORIAL NOTES.

SOME of the ways adopted by other large assemblies and organizations may be profitably imitated in future meetings of the American Medical Association, as indicated by the ease with which ill-digested resolutions are sometimes passed in our general sessions suggests the necessity of having in amendment to the By-Laws of the Association, whereby *all* resolutions before being voted upon, shall have been previously introduced and referred to a committee on resolutions. By having such a committee it would be quite impossible to pass resolutions under the spur of insufficient time for consideration. Nobody would be wronged by such a course, for the committee by the terms of its organization should be required to report back to the Association, either by favorable or adverse report, all resolutions referred to them not later than the morning hour of the last day of the session.

TO BE TRIED UNDER THE CODE.—A San Francisco physician, member of the San Francisco County Medical Society, read a paper before that body and the following day extensive abstracts of his contribution appeared in the daily public press, presumably with his knowledge, consent and assistance. Charges were promptly brought against him for a violation of the Code of Ethics, and his trial was set for an early date.

AMERICAN MEDICAL ASSOCIATION.

Forty-second Annual Meeting, held at
Washington, D. C., May 5-8, 1891.

FOURTH DAY—FRIDAY, MAY 8.

The President called the Association to order at 10 A.M.

Prayer was offered by Rev. Dr. John H. Elliott, D.D.

The Permanent Secretary read the names of the committee to petition Congress, as per resolution, on a Secretary of Public Health.

Committee: C. G. Comegys, Chairman, Ohio; J. F. Hibberd, Indiana; N. S. Davis, Illinois; J. C. Culbertson, Ohio; T. G. Richardson, Louisiana; Wm. B. Atkinson, Pennsylvania; Chas A. Lindsley, Connecticut; C. A. Hughes, Missouri; Wm. T. Briggs, Tennessee; H. D. Didama, New York; Thos. B. Evans, Maryland; Alex. J. Stone, Minnesota; J. P. Logan, Georgia; W. W. Kerr, California; Chas. Denison, Colorado; W. L. Schenck, Kansas; P. O. Hooper, Arkansas; H. J. Swearingen, Texas; Wirt Johnson, Mississippi; Thos. F. Wood, North Carolina; J. N. McCormack, Kentucky; J. T. Reeve, Wisconsin; H. O. Walker, Michigan.

Officers of Section on Obstetrics and Gynecology—Chairman, E. E. Montgomery, Pa.; Vice-Chairman, Bedford Brown, Va.; Secretary, F. H. Martin, Ill.

The following resolution was unanimously adopted by the Section:

Resolved, That in the future the papers to be presented to this Section shall be limited to forty, and the chairman shall have full discretionary power in selecting such papers from those offering.

Dr. Thos. F. Wood, N. C., read the report of the Committee on the Centenary of Vaccination. (Report not received.)

On motion of Dr. J. F. Hibberd, Ind., it was

Resolved, That the Committee on the Jenner Centennial be continued for another year, and that at the next annual meeting of this Association the Committee report, naming suitable persons, known to be students of vaccinology, to form a standing committee to whom the whole subject be entrusted, and that the 14th day of May, 1896, be chosen and set apart as the day upon which we will celebrate the centennial of the discovery of vaccination.

Resolved, Further, that the meeting of this Association for 1896 be so arranged as to include the above date.

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

Dr. Culbertson, Ohio, presented the following:

Your Committee, to whom was referred the suggestions contained in the President's Address, beg leave to recommend the adoption of the following resolutions:

Resolved, That all business matters of the Association be referred without discussion or comment to an execu-

tive committee composed of two members to be appointed by each State Society in affiliation with this Association, who shall carefully consider and recommend such action thereon as they may deem most advisable.

Resolved, That the time of meeting of the Sections be from 9 A.M. to 12 M. and from 2 to 6 P.M., and that the time of the general sessions shall begin at 12 M. and continue until adjournment.

Signed, P. O. HOOPER,
J. C. CULBERTSON,
LEARTUS CONNOR,
HENRY O. MARCY,
HAROLD N. MOYER.

This was laid over as an amendment to the By-laws.

Dr. A. L. Gihon offered an amendment to the By-laws, making Wednesday the day for the delivery of the President's address.

THE INCORPORATION OF THE ASSOCIATION.

Dr. Harvey Reed, Ohio, offered the following:

WHEREAS, The American Medical Association has never been incorporated, and has in consequence no legal existence, therefore be it

Resolved, That a committee of seven be appointed by the President to proceed at once to procure its incorporation; and that said committee of incorporation be and are hereby instructed to name the Judicial Council of this Association for the Trustees of said incorporation.

A motion of Dr. J. E. Woodbridge, Ohio, to lay this on the table was negatived.

After much discussion, on motion of Dr. J. F. Hibberd, Ind., the motion was amended to read that the committee be appointed to devise a plan for the incorporation of the Association and report their action at the next annual meeting.

The question then being on the amendment as amended, Dr. Hibberd offered as a substitute for all that was before the house,

That a committee of seven be appointed to devise a plan of incorporation and report next year.

This was unanimously adopted.

The Permanent Secretary announced the presence in the house of Mr. W. Taylor, President of the American Pharmaceutical Association, and Prof. Joseph Remington, a delegation from that body, and mentioned the fact that Mr. Taylor had been engaged in work on the Pharmacopoeia for forty years. On motion these gentlemen were invited to seats on the platform.

Messrs. Taylor and Remington were received and accorded seats, and Prof. Remington earnestly thanked the Association for their courtesy and for the formation of the Section of Materia Medica and Pharmacy, as follows:

WHEREAS, The American Medical Association has organized a Section of Materia Medica and Pharmacy, and has invited twenty-five members of the American Pharmaceutical Association to meet with them and discuss questions of mutual interest. The Section having been duly organized, and numerous papers having been read and subjects considered, to the satisfaction and benefit of the members attending, it is therefore

Resolved, That the delegation from the American Pharmaceutical Association express their high sense of appreciation of the action of the American Medical Associa-

tion, and sincerely trust that the movement which has been inaugurated so auspiciously may redound to the advantage of the professions of medicine and pharmacy.

The Permanent Secretary, in the absence of Dr. W. L. Schenck, Kans., arose to read the *Address on State Medicine*. On motion of Dr. J. G. Kiernan, Illinois, it was read by title.

Dr. F. Woodbury, Pennsylvania, from the Section of *Materia Medica and Pharmacy*, offered the following:

Resolved, That the Government of the United States be memorialized by the American Medical Association in favor of the plan proposed by Dr. F. E. Stewart, whereby the valuable work of the laboratories of the Army, Navy, Marine-Hospital Service, Smithsonian Institution, Customs Service, Agricultural Department and other departments of the public service, in the line of *identification and analysis of drugs* may be facilitated and made of more general utility, by the publication of their results, so that the information thus gathered may be disseminated for the general benefit of the professions of medicine and pharmacy.

On motion this was adopted.

Dr. Wm. H. German, Illinois, offered the following:

Resolved, That a committee of three be appointed by the President, to report at the next general session of this Association, to draft a memorial for presentation to the Congress of the United States, in accordance with the suggestion of the Hon. John C. Ross in his Address of Welcome to this Association, asking that the common law be so amended that confidential communications between physician and patient shall be respected in the same manner as those between attorney and client.

On motion of Dr. Kiernan this was adopted.

The report of the Section on State Medicine, by Dr. Benjamin Lee, Pennsylvania, was read by the Permanent Secretary and accepted.

A paper by Dr. W. W. Parker, Virginia, on *Intelligence in Man and Animals*, was offered and read by title.

The Permanent Secretary announced the officers of the Sections for next year as follows:

Practice of Medicine—Chairman, ———; Secretary, ———

Surgery and Anatomy—Chairman, J. McF. Gaston, Georgia; Vice Chairman, M. Price, Pennsylvania; Secretary, W. F. Mann, Michigan.

Medical Jurisprudence and Neurology—Chairman, H. N. Moyer, Illinois; Vice-Chairman, J. E. Emerson, Michigan; Secretary, G. D. Strawbridge, Pennsylvania.

Obstetrics and Diseases of Women—Chairman, ———; Secretary, ———

Diseases of Children—Chairman, E. F. Brush, New York; Secretary, B. A. Waddington, New Jersey.

Dermatology and Syphilography—Chairman, L. D. Bulkley, New York; Secretary, J. C. McGuire, District of Columbia.

Oral and Dental Surgery—Chairman, J. Paft, Ohio; Secretary, E. S. Talbot, Illinois.

Otology and Laryngology—Chairman, ———; Secretary, ———

Ophthalmology—Chairman, ———; Secretary, ———

Materia Medica and Pharmacy—Chairman, Frank Woodbury, Pennsylvania; Secretary, W. L. Whelpley, Missouri.

State Medicine—Chairman, Benjamin Lee, Pennsylvania; Secretary, L. F. Flick, Pennsylvania. *Physiology and Dietetics*—Chairman, C. H. A. Kleinschmidt, District of Columbia; Secretary, ———

A motion to amend the title of the Section of Neurology, etc., by adding Psychiatry, was laid on the table by a large vote.

Committee on Medical Aid Association (Resolution by Dr. Horner), Frederick Horner, U. S. N.; Benjamin Lee, Pennsylvania; John H. Hollister, Illinois.

The report of the Judicial Council having been asked for Dr. N. S. Davis, explained that time was needed to investigate the matters referred, and the report would be offered at next session.

Dr. I. N. Love, Missouri, moved that it be the sense of this Association that Dr. W. W. Potter should have no hesitation in serving on the Board of Trustees.

The President decided this not in order.

As several members had applied to be appointed delegates abroad, the President, after some remarks on the subject, announced that he would appoint them to all save the British Medical Association.

After some discussion, and a motion that no appointments be made to the British Medical Association, on motion the whole subject was laid on the table.

On motion of Dr. J. E. Woodbridge, Ohio, the President and Permanent Secretary were authorized as usual to issue credentials abroad to such societies as were deemed proper.

The Permanent Secretary read the following:

PROCTOR, VT., May 6, 1891.

DR. N. S. LINCOLN, Washington, D. C.

My Dear Sir:—Am very sorry not to be in Washington this week to be of any help in my power in entertaining the medical society, but I find it impossible to be with you. Very truly yours,

REDFIELD PROCTOR.

On motion of Dr. W. K. Sheddon, Tennessee, it was

Resolved, That the thanks of the Association were tendered to the local committee of arrangements, and the other physicians and citizens of Washington, to the trustees of the different museums and art galleries, and to the hotels and railroads for their many kindnesses and favors shown to the members during their stay here, and that this motion be passed by a rising vote.

The vote was adopted by the entire assemblage rising.

Dr. J. E. Woodbridge, Ohio, said:

"It has been my good fortune to have attended many meetings of the American Medical Association, but never before have I seen the As-

sociation so honorably and agreeably, yet so firmly and well presided over as at the present meeting, and the duties of the President and of the Permanent Secretary so satisfactorily performed, therefore I move that the thanks of this Association are due and are hereby tendered to Dr. Briggs, of Tennessee and Dr. Atkinson, of Pennsylvania." Carried unanimously.

The President then introduced Dr. H. O. Marcy, Massachusetts, the President-elect, who accepted the duties of his office in a speech alluding to the venerable ex-presidents, Drs. Bowditch, and Storer, both of Boston, Mass., in terms of profound respect and regret that they had not been with the Association this year.

On motion of Dr. F. Woodbury, Pennsylvania, it was

Resolved, That the Permanent Secretary be directed to send telegrams to our venerable ex-presidents, Drs. Henry I. Bowditch and D. Humphreys Storer, of Boston, expressing the high esteem in which we continue to hold their former labors in the American Medical Association, and of our continued personal regard; and greatly regret that they were unable to be present with us at the present meeting.

The retiring President, Dr. W. T. Briggs, then alluded to the pleasure he had enjoyed in presiding over the meeting, thanking the members for their support and bade them good bye and God speed.

On motion of Dr. N. S. Davis, the Association then adjourned to meet in Detroit, Mich., on the 1st Tuesday of June, 1892.

WILLIAM B. ATKINSON,
Permanent Secretary.

LIBRARIAN'S REPORT.

Mr. President:—I have the honor to present the catalogue of additions to the Library of the Association during my term as Librarian of the American Medical Association.

This report shows the addition of 45 Periodicals, 24 Reports of various kinds, 14 Society Transactions, 5 Hospital Reports, 16 Dissertations and Papers, and 8 College Announcements.

I would suggest, on account of the crowded condition of the library—one of the towers of the Smithsonian Institute Building—that other quarters be selected for its habitat. The tower is now overcrowded, the shelving space all used up, and the new material must be piled, layer over layer, on the floors, where it is not only inaccessible, but where no one cares to seek it. I would also suggest that the subscription to the *Index Medicus* for the current year be continued, and the sum of \$10 be appropriated for that purpose.

CATALOGUE OF ADDITIONS TO THE LIBRARY OF THE AMERICAN MEDICAL ASSOCIATION, BY DONATION, EXCHANGE AND SUBSCRIPTION, FROM MAY 1, 1890, TO MAY 1, 1891.

REPORTS.

Consular Reports (U. S.), Nos. 114-125.

Consular Report, Special. Fruit Culture in Foreign Countries, 1890.

Consular Report, Special. Carpet Man'f. in Foreign Countries, 1890.

Consular Report, Special. Malt and Beer in Spanish America, 1890.

Consular Report, Index, 1890.

American Statistical Association, Report, 1890.

Biological Laboratory of Johns Hopkins University, Report, Vol. iv, No. 7, 1890.

Bureau of Education, Reports, 1890.

Foreign Relation of the United States, 1889.

Illinois State Board of Health, Report, 1890.

Index Catalogue of the Library of the Surgeon-General's Office, U. S. A., Vol. xi.

International American Conferences, Report and Recommendations, 1890.

Red Cross Society, Report, 1890.

COLLEGES.

Alumni Association, Philadelphia College of Pharmacy, 1890.

Baltimore University, Annual Announcement, 1891.

Baltimore Medical College, Announcement, 1891.

National University, D. C., Annual Announcement, 1890.

McGill University, Canada, Annual Announcement, 1891.

Tulane University, Louisiana, Annual Announcement, 1890.

University of Pennsylvania, Philadelphia, Annual Announcement, 1890.

Women's Medical College, Philadelphia, Annual Announcement, 1890.

DISSERTATIONS AND PAPERS.

Baker, Henry B., Sanitation in 1890.

Bishop, S. S., Imperfect Auditory Canal, 1890.

Boylan, J. E., Simple and Effective Method of Anesthetizing the Pharyngeal Tonsil.

Bulkley, L. D., Psoropernosis Follicularis Cutis.

Bulkley, L. D., On Dangers arising from Syphilis in the Practice of Dentistry.

Cutter, Ephraim, Food in Motherhood.

Eastman, Jos., Abdominal and Pelvic Surgery.

Johnson, J. T., Abortion and its Effects.

Judson, A. B., A Criticism of Willett's Operation for Talipes Calcanens.

Goner, A. J., The Causes and the Remedies for Suits for Malpractice.

Lamphear, New Treatment of Peritonitis.

Morton, Wm. J., The Franklinic Interrupted Current.

Remondino, P. C., Longevity and Climate.

Senn, Two Cases of Resection of Cæcum for Carcinoma.

Senn, Diagnosis and Operative Treatment of Gun-Shot Wounds of the Stomach and Intestines.

Johns Hopkins University, Studies from Biological Laboratory, Vol. v., No. 1. Vol. iv., No. 5.

HOSPITALS.

Butler Hospitals for Insane, Report, Providence, 1890, 1891.

Johns Hopkins, Vol. ii, No. 1, 1890.

New York Hospital and Bloomingdale Asylum, 1889.

Northampton Lunatic Hospital, No. 21, 1890.

PERIODICALS.

Belgium—Archives Médicales Belges.

Canada—Canada Medical Record.

Montreal Medical Journal.

L'Union Médical du Canada.

France—Archives de Médecine Navale.

Journal de Médecine et de Chirurgie.

Sweden—Nordiskt Medicinskt Archiv.

United States—Alienist and Neurologist.

American Journal of Insanity.

American Lancet.

American Practitioner and News.

American Veterinary Review.
Archives of Dentistry.
Atlanta Medical and Surgical Journal.
Buffalo Medical and Surgical Journal.
Cincinnati Medical News.
Columbus Medical Journal.
Denver Medical Times.
Dietetic Gazette.
Gaillard's Medical Journal.
Index Medicus.
International Dental Journal.
Journal of the American Medical Association.
Journal of Balneology and Dietary.
Journal of Nervous and Mental Diseases.
Medical Age.
Medical Brief.
Medical Bulletin.
Medical Standard.
Medical Summary.

Medical World.

Nashville Journal of Medicine and Surgery.
New England Medical Monthly.
New Orleans Medical and Surgical Journal.
New York Medical Journal.
North Carolina Medical Journal.
Notes on New Remedies.
Pacific Medical Journal.
Physician and Surgeon.
Pittsburgh Medical Review.
St. Louis Medical and Surgical Journal.
Southern Clinic.
Southern Practitioner.
University Medical Magazine.
Virginia Medical Monthly.

SOCIÉTÉS.

France—Bulletin de l'Académie de Médecine.
Bulletin et Mémoires de la Société Méd. des Hôpitaux de Paris.
Bulletin de la Société Clinique de Paris.
Germany—Physikalisch Med. Societät in Erlangen, 1890.
Great Britain—Obstetrical Soc. of London, Transactions, Vol. xxxi, Part iii and iv, 1889.
Obstetrical Soc. of London, Transactions, Vol. xxxii, Part i, ii and iii, 1890.
Pathological Society of London, Transactions, Vol. xli, 1890.
United States—American Association of Obstetricians and Gynecologists, Trans., Vol. iii, 1890.
Americau Gynecological Society, Trans., Vol. xv, 1890.
Iowa State Medical Society, Vol. viii, 1890.
Medical Society State of New York, Trans., 1890.
Medical Society, New Jersey, Trans., 1890.
New York State Pharmaceutical Assn., 1890.
S. Carolina Med. Association, Trans., 1890.

SOCIETY PROCEEDINGS.

Fort Wayne (Ind.) Academy of Medicine.
Regular Session, March 30, 1891.

DR. L. K. McCULLOUGH read the paper of the evening, entitled

SHURLY'S TREATMENT.

The essayist gave an outline of the present treatment of Shurly and Gibbes, and appended the history of four cases. The essayist suggests that inasmuch as chlorine gas is irrepressible, producing spasmodic closure of the glottis, it would

not penetrate the bronchial tubes of medium calibre, to say nothing of the air cells; that if chlorine gas is necessary to prevent coagulation and the formation of the ptomaine toxalbumin, it might be gotten into the tissues through rectal insufflation.

Case 1.—Mrs. C., æt. 33 years, since birth of last child, eighteen months ago, has been in failing health. January 3, is in last stage of phthisis. Daily injections of iodine for ten days, and five more on alternate days; inhalation of chlorine gas caused so much distress that it was abandoned. Patient was better subjectively, objectively no improvement. Now failing rapidly, and will soon die.

Case 2.—I. A., cigar maker, æt. 27. Family history good. For past fourteen months patient thinks he has been out of health. Has had three separate hæmorrhages; slight cough; general condition fair; appetite good. Dec. 29, right lung no abnormal signs; on left side infra-clavicular space gave tubular breathing; dullness on percussion and crackling râles on deep inspiration. Temp. 99.5°; no expectoration. Iodine injections daily, gr. $\frac{3}{16}$, increased to $\frac{1}{8}$, given for fifteen days. No chlorine inhalation. Beechwood creosote gr. $\frac{2}{3}$ t.i.d. Hypophosphites and malt were used. Patient has gained eight pounds in weight. Coughs scarcely any, temp. normal, physical signs improved, but probably due to disappearance of local congestion.

Case 3.—Æt. 25; incipient stage; treatment two weeks; no change.

Case 4.—J. P., æt. 38; tubercular history; husky voice; congestion of larynx for past two years; sputum shows bacilli. Lost a brother recently from phthisis. Expectoration very profuse. Since treatment expectoration has ceased, till at present time can not get enough for examination. Chlorine gas inhalations not used. Chloride gold was used for a time but was discontinued on account of pain and nodulation at site of puncture. Arytenoid ragged; no abscess has followed injections; rubbing relieves pain of puncture.

DR. PROEGLER said he was acquainted with case 4, and the tubercular history is undoubted. Since six weeks patient has improved very rapidly. Gold injections makes patient feel very tired. At present there is no expectoration; no night-sweats; appetite improving, and now walks several blocks where before was unable to go out. Right lung has cleared up and râles not appreciable. Patient had continued beechwood, creosote, hypophosphites and malt.

DR. WHEBY: It would be difficult to say that results were due entirely to injections. Am better impressed with Shurly's treatment than with Koch's because it produces no reaction.

DR. SCHILLING: Have had no experience with the Shurly method.

DR. WHEELOCK: Am interested indirectly in the treatment on account of the possibility of curing those secondary tubercular affections of the eye found in patients with phthisical antecedents.

DR. McCASKEY: Have had some experience with iodine injections, but not enough to base a definite opinion upon. Maximum dose of iodine as used by essayist seems small. I think it may be safely carried to 1 gr. My injections have been followed by pain, hence I use sol. cocaine. The treatment shows that irritating injections may be used with perfect safety and without danger of suppuration.

DR. PROEGLER: I think there is a psychical element in the injections, and that after the weary routine of reconstructives the injections act upon the mind as well as physically.

DR. McCULLOUGH: Am not prepared to offer any opinion as to the real value of the treatment, and can not till more statistics have been brought forward.

BOOK REVIEWS.

DIE WIRKSAMKEIT DES KOCHSCHEN HEILMITTELS GEGEN TUBERCULOSE.

For some years it has been the custom of the minister of medical affairs in Germany to issue a year book, in which are published the official reports of the directors of different clinics. This volume forms a supplement for the regular volume and contains thirty-three reports of the results obtained with Koch's method up to the close of December, 1890, or about eight weeks' experience—too short a time to come to any conclusion as to the permanent value of the method. The majority of opinions are more or less favorable as to the diagnostic and therapeutic value of the method, but in many instances an opinion is reserved or guardedly expressed. Of 1,010 patients with tuberculosis of the internal organs who were subjected to the treatment, only 13 are said to have recovered, 305 were benefited, 586 remained stationary, and 46 died. Of the 13 cases reported cured, 10 were in the first stage, and 267 of those reported improved were either in the first stage, or else the disease had made but little progress.

PIPERAZIDINE AS A SOLVENT FOR URIC ACID.

It is stated in a German pharmaceutical journal that piperazidine dissolves uric acid more readily than any other substance of a basic nature. Urate of lithia requires 368 times its own weight of water to dissolve it, but urate of piperazidine dissolves in fifty times its weight of water. It may therefore be expected that this drug will become a fashionable, let us hope, too, an efficient remedy in gout and allied diseases.

NECROLOGY.

Necrology Report for the State of Connecticut.

Hartford County.—The following members of the State Medical Society have died during the year: Geo. E. Markham, East Hartford; R. B. Watkins, So. Manchester; J. S. Butler, Hartford; S. W. Rockwell, So. Windsor; Casper Barstowe, E. Hartford.

Tolland County.—Joel Addington Warren, M.D., born at Irisburgh, Vt., February 15, 1834; died at Ellington Corner, December 25, 1890. Graduated from the Albany, N. Y., Medical School in 1859.

Fairfield County.—James R. Cumming, M.D., of Bridgeport.

New London County.—Robert A. Mainwaring, M.D., of New London; died September 1, 1890.

Respectfully submitted,

W. A. M. WAINWRIGHT, M.D.

Sidney Allan Fox, M.D.

The following memoir of the late Dr. Sidney Allan Fox, member of the Kings County Medical Association, was read at the stated meeting, March 10, 1891:

Dr. Sidney Allan Fox died of pneumonia, at his residence, 22 Cambridge Place, Brooklyn, on Saturday, January 10, 1891, aged 34 years, 6 mos. and 26 days. He was born at Mount Sterling, Ky., graduated from the University of Kentucky, and pursued the study of medicine at Bellevue Hospital Medical College, New York City, receiving the diploma of that institution in 1880.

He served one year each as interne in the Charity Hospital and the New York Hospital for the Relief of Ruptured and Crippled, and came to Brooklyn in 1882. He was Surgeon to the Brooklyn Elevated R. R., and Surgeon in Chief to the Brooklyn Dispensary for the treatment of the Diseases of the Nose, Throat and Lungs. He joined this Association in January, 1888, and always took an active interest in its proceedings. He was especially interested in the diseases of the respiratory system. By his death the Association has lost a valuable member, and the profession one of the ablest of its younger men. The members of this Association unite in expressing their profound regret at the death of Dr. Fox, and tender to the bereaved family their sincere sympathy.

WM. WATERWORTH,

F. C. RAYNOR,

Committee.

Richard Gundry, M.D.

Dr. Richard Gundry, a member of the faculty of the Baltimore College of Physicians and Surgeons, died at Spring Grove, Md., on April 23, 1891. He was born in England, near London, about sixty-two years ago, the son of a talented clergyman. In 1845 he went to Canada, and soon afterwards began his medical studies. He graduated five years later from the medical department of Harvard University. He began medical practice at Rochester, N. Y., but in 1854 removed to Columbus, O., to become an assistant physician in the Lunatic Asylum. In 1857 he went to Dayton to occupy a similar position, and became Superintendent of that institution in 1862. He was afterwards identified with the care of the insane at Athens, O., and again at Columbus, and later at Catonsville, Md. Dr. Gundry superintended the building of two or more large asylums, and was the author of numerous reports on improving the care of the insane. After his removal to the vicinity of Baltimore, he accepted the chair of materia medica, therapeutics and mental diseases in the college above named. His final illness was due to Bright's disease.

MISCELLANY.

IN OUR last issue the name of Dr. J. C. LeGrand, of Alabama, should appear instead of Lagrange, as member of the Nominating Committee.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—At the meeting of the Directors of the New York Post-Graduate Medical School and Hospital, H. J. Boldt, M.D., was made Professor of Diseases of Women, William James Morton, M.D., Professor of Electro-Therapeutics and Aug. Caille, M.D., Professor of Diseases of Children. Clarence C. Rice, Secretary.

SOUTH DAKOTA STATE MEDICAL SOCIETY.—The tenth annual meeting of the South Dakota State Medical Society will be held at Chamberlain, South Dakota, on Wednesday, Thursday and Friday, June 10, 11 and 12, 1891. Members of the medical profession are cordially invited to attend.

Program.—Business sessions will be held at Masonic Hall, Wednesday, June 10, 1891, 8 P.M. Call to order. Prayer, Rev. D. B. Nichols, M.D. Address of Welcome, Mayor John T. Anderson. Response, W. E. Ducan, M.D. President's Annual Address, J. W. Freeman, M.D. Report of Committee of Arrangements.

Thursday, A.M. Report of Censors and Admission of New Members. Appointment of Committees. Report of Secretary. Report of Treasurer. Report of Standing Committees. Reports of Delegates to American Medical Association and other Societies.

Sessions.—Report on Medicine, Dr. I. R. Spooner, Chairman. Report on Medicine, Dr. C. J. Cummings, Secretary.

Report on Surgery, Dr. G. W. Moody, Chairman. Report on Surgery, Dr. S. J. Coyne, Secretary.

Report on Obstetrics and Diseases of Women, Dr. H. VanBuskirk, Chairman. Report on Obstetrics and Diseases of Women, Dr. A. H. Bowman, Secretary.

Report on Nervous Diseases, Dr. S. B. McGlumphy, Chairman. Report on Nervous Diseases, Dr. H. H. Stoner, Secretary.

Report on Hygiene, Dr. S. A. Brown, Chairman. Report on Hygiene, Dr. J. B. Graham, Secretary.

Thursday, P.M. Report on Endemic Diseases, Dr. Fred. Treon, Chairman. Report on Endemic Diseases, Dr. R. E. Buchanan, Secretary.

Report on Microscopy, Dr. H. S. Sevey, Chairman. Report on Microscopy, Dr. G. E. Martin, Secretary.

Report on Diseases of Children, Dr. F. B. Bullard, Chairman. Report on Diseases of Children, Dr. F. P. Smith, Secretary.

Report on Diseases of Eye and Ear, Dr. A. Shaw, Chairman. Report on Diseases of Eye and Ear, Dr. W. J. Nolan, Secretary.

Report on Dermatology and Venereal Diseases, Dr. M. Ware, Chairman. Report on Dermatology and Venereal Diseases, Dr. R. T. Dott, Secretary.

Report on Vital Statistics, Dr. F. A. Spafford, Chairman. Report on Vital Statistics, Dr. O. O. Sawyer, Secretary.

Report on State Legislation, Dr. W. M. Kaul, Chairman. Report on State Legislation, Dr. A. H. Tufts, Secretary.

Papers.—Laceration of Cervix Uteri, Trachelorrhaphy, and relation to Conception and Pregnancy, Dr. J. S. Johnson.

Ophthalmology and its Relation to General Practice, Dr. A. Shaw.

Diseases of Children, Dr. F. B. Smith.

Also papers by Drs. I. R. Spooner, F. A. Spafford, S. J. Coyne, W. J. Nolan, O. W. Phelps, G. W. Moody, J.

B. Graham, S. B. McGlumphy. Volunteer Papers and Report of Cases.

Thursday Evening. Unfinished Business. Report of the Nominating Committee. Election of Officers. Appointment of Committees and Sections for Ensuing Year. Reading of the Minutes. Adjournment.

Officers.—President, Dr. J. W. Freeman; Vice-President, Dr. M. Ware; Second Vice-President, Dr. A. H. Tufts; Secretary, Dr. R. C. Warne; Assistant Secretary, Dr. S. L. Halverson; Treasurer, Dr. J. C. Morgan.

Trustees.—Dr. F. Andros, Dr. S. B. McGlumphy, and Dr. F. B. Bullard.

Committee of Arrangement.—Dr. R. H. Goodrich, Dr. S. L. Halverson, Dr. May, Dr. Cook, Dr. Lloyd.

Notes.—Article III of the Constitution, Section 4: "Permanent members shall be regular practitioners of medicine in the State, shall be graduates of a medical college in good standing, shall be members of the local society where they reside where such society exists. . ."

"Every application shall be accompanied by the sum of \$3.00 membership fee. . ."

The society has largely increased as to membership and attendance the past few years, and the interest in our society work has increased in proportion. It is wished that all the physicians in the State will join in the good work.

The railroads refuse reduced rates so that each one will probably find it the best to buy round trip tickets.

The hotels—"Hotel Taft," "Wright House," "Brule House," and "Merchants House,"—kindly make a rate of \$1.50 per day.

Capt. H. J. King extends an invitation to the society for a pleasure trip on the Missouri river sometime during the meeting.

The committee on arrangements promise all a good time.

THE GOLDEN BELT IN THE CAPITAL CITY OF KANSAS.

—The Golden Belt District Medical Society of Kansas convened in regular quarterly (annual) session in the club rooms in the National Hotel, in Topeka, April 9, in response to an invitation by the physicians of the capital city, who entertained the visitors royally and attended the sessions in a body. The attendance was very large and the programme unusually interesting, especially so by virtue of the liberal discussions of the papers read, the cases reported, and the difficult operation performed by Dr. Emory Lanphear, of Kansas City, Mo., who exhibited great skill as operating surgeon in demonstrating upon a dog recent improvements in intestinal surgery. The programme carried out was as follows:

Dr. J. H. Garvey, of Wisley, "Chronic Cystitis with Report of Cases."

Dr. C. H. Guibor, of Topeka, "Report of Cases of Adenoid Growths in the Throat."

Dr. Emory Lanphear, of Kansas City, Mo., "Some Recent Improvements in Intestinal Surgery, with Demonstrations upon a Dog."

Dr. H. Cordier, of McPherson, "Phimosis, Local and Remote Results."

Dr. Chas. W. Adams, of Kansas City, "Peri-Uterine Inflammation."

Dr. P. Dangherty, of Junction City, President, "Annual Address."

Dr. L. H. Berger, of Kansas City, "Use of Obstetric Forceps."

Dr. Hal. Foster, of Kansas City, "Report of a Case of Submucons Hæmorrhage of the Larynx."

This being the annual meeting, officers for the ensuing year were elected as follows:

President, Dr. Wm. B. Dewees, of Salina.

First Vice-President, Dr. Z. T. Harvey, of Council Grove.

Second Vice-President, Dr. T. N. Gunn, of Chapman.

Secretary, Dr. F. B. Browne, of Salina.

Treasurer, Dr. E. Kauffman, of Abilene.

The new president was introduced formally by the retiring president who, upon taking the chair, made a brief address in which he thanked the members for the honor conferred upon him. A vote of thanks was tendered the retiring president. It was agreed by vote to accept the invitation of the retiring president to hold the next meeting at Junction City in July. The Golden Belt is one of the three most prosperous societies in the State of Kansas. The attendance at this meeting numbered over seventy, and included a large number of the leading practitioners and teachers of medicine in Kansas, and five from Kansas City, Mo. The meeting was the most interesting and profitable one in the history of the Society.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH.—The seventh annual meeting of the Fifth District Branch will be held in Wurzer's Building, 315 Washington street (over the Post Office), Brooklyn, on Tuesday, May 26, 1891.

The morning session will be called to order at 11 A.M., and will be devoted to the

President's Address, "Opiales in the Treatment of Acute Peritonitis."

Business of the Branch.

Biographical sketches of the late Dr. James Bathgate, by John Shady, M.D.; Dr. W. N. Blakeman, by Mr. A. N. Blakeman; Dr. John P. Garrish, by W. T. White, M.D. Scientific papers on

"Cathartics in the Treatment of Acute Peritonitis," by A. Palmer Dudley, M.D.

"The Treatment of Hydrocele by Carbolic Injection versus the Radical Operation," by Samuel E. Milliken, M.D.

Adjournment at 1 P.M. for lunch.

The afternoon session will be called to order at 2 P.M., and will be devoted to the remaining scientific papers: "Scarlatinal Diphtheritis and its Treatment," by E. G. Rave, M.D.

"Practical Results of the Operation for Lacerated Cervix Uteri," by H. W. Mitchell, M.D.

"Objections to the Ordinary Axis-traction Instruments, also the Advantages of the Use of the Anticranotomy Forceps over Version in Pelvic Deformities," by T. J. McGillicuddy, M.D.

"A Case of Obstinate Neuralgia Following Fracture Relieved by Operation," by Reginald H. Sayre, M.D.

"Acute Prostatitis and Prostatic Abscess," by William R. Ballou, M.D.

The Nominating Committee will then make its report of members of the Executive Committee for the ensuing year.

The present accumulation of interest from the Permanent Fund will enable the Branch to furnish lunch to all in attendance without charge.

LETTERS RECEIVED.

Albany, N. Y., Dr. A. Marsh.
Alexandria, S. Dak., Conlin & Maytum.
Alma, Wis., Dr. Geo. Seiler.
Ashland, Me., Dr. Kinney.
Baltimore, Md., Dr. H. I. Friedenwald.
Boston, Mass., Darnell & Upham.
Charlton, Ala., Dr. T. T. Glover.
Chicago, Ill., Dr. S. C. Plummer, Dr. J. M. Dodson.
Chilhowee, Mo., Dr. C. T. Sweeney.
Cincinnati, O., A. W. Whelpley.
Clayton, O., Dr. John Knapp.
Cleveland, O., Dr. H. W. Quirk.
Clinton, Ill., M. Goodbrake.
Cohoes, N. Y., Dr. B. Egan.
Columbus, O., Siebert & Lilley.
Columbus, Texas, R. C. Stafford & Co.
Denver, Colo., Dr. W. G. Sprague.
Detroit, Mich., Dr. T. A. McGraw, Park, Davis & Co.
Fairfield, Ia., Dr. J. V. Knapp.
Fitchburg, Mass., Dr. A. W. Sidney.
Galena, Ill., Elce Bros.
Grand Rapids, Mich., Dr. L. A. Roller.
Hyle Park, Ill., The Tyndale Eucalyptus Co.
Irving Park, Ill., Dr. Ed. Pynchon.

Jackson, Tenn., Dr. W. F. Rochelle.
Justin, Texas, R. J. Allison.
Louisville, Ky., Cal. Fig Syrup Co.
Lyons, Neb., Dr. M. L. Hildreth.
Minneka, Minn., Dr. D. F. Brooks.
Morgansfield, Ky., Dr. J. W. Muir.
Morristown, Ind., Dr. F. H. West.
Mount Vernon, N. Y., Dr. E. S. Tuley.
Nashville, Tenn., Dr. W. T. Briggs.
New York City, G. E. Stechert, Dr. A. E. Rockey, Dr. F. H. Wiggins, J. H. Bates, Geo. P. Rawell & Co., Douchy & Co.
Rock Cliff, Texas, Dr. R. G. Williams.
Omaha, Ill., Dr. W. M. Barritt.
Philadelphia, University of Pa. Press, Dr. C. B. Warder, Dr. R. J. Dunglison, Dr. J. H. Packard.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 9, 1891, to May 15, 1891.

Lieut. Col. James C. McKee, Surgeon, having been found incapacitated for active service by an Army Retiring Board, is, by direction of the Acting Secretary of War, granted leave of absence until further orders on account of disability. Par. 11, S. O. 105, A. G. O., Washington, May 9, 1891.

Capt. Henry P. Birmingham, Asst. Surgeon, the extension of the ordinary leave of absence granted in S. O. 81, A. G. O., April 10, 1891, from this office, is changed to leave of absence on account of sickness, to date from May 1, 1891. By direction of the Acting Secretary of War. Par. 4, S. O. 105, A. G. O., May 12, 1891.

Lieut. Col. Dallas Bach, Surgeon, is relieved from duty as a member of the Army Medical Examining Board, New York City, and will return to his proper station, Omaha, Neb., and resume duties as Medical Director, Dept. of the Platte. By direction of the Acting Secretary of War. Par. 5, S. O. 105, A. G. O., May 12, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Two Weeks Ending May 15, 1891.

P. A. Surgeon W. H. Rush, detached from "Saratoa" and prepare for sea.

P. A. Surgeon S. W. Atlee, detached from Navy Yard, League Island, and to "Saratoa."

Asst. Surgeon C. De W. Brownell, ordered to Navy Yard, League Island, Pa.

P. A. Surgeon T. H. Streets, detached from Naval Examining Board and prepare for sea.

Surgeon E. S. Mackie, ordered as member of Naval Examining Board.

P. A. Surgeon L. W. Curtis, detached from Naval Academy and to the Practice ship "Constellation."

P. A. Surgeon Philip Leach, orders to U. S. Practice ship "Constellation" revoked.

Surgeon G. P. Bradley, detached from "Mohican" and placed on waiting order.

Medical Inspector T. C. Walton, Surgeon Geo. A. Bright, and P. A. Surgeon J. M. Steele, ordered to Naval Academy to examine applicants physically for admission.

Surgeon S. M. Dickson, ordered to the "Constellation."

P. A. Surgeon W. H. Rush, detached from "Saratoa," and await duty to sea.

P. A. Surgeon L. W. Atlee, detached from Navy Yard, League Island, and to the "Saratoa."

Asst. Surgeon C. De W. Brownell, ordered to Navy Yard, League Island.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Three Weeks Ending May 9, 1891.

Surgeon H. W. Austin, detailed as chairman of Board for physical examination of candidates for appointment, Revenue Marine Service. May 9, 1891.

P. A. Surgeon P. M. Carrington, granted leave of absence for twenty-three days. May 5, 1891.

P. A. Surgeon D. W. Bratton, when relieved at Portland, Ore., to proceed to Chicago for duty. May 9, 1891.

P. A. Surgeon G. M. Magruder, detailed as recorder of Board for physical examination of candidates for appointment, Revenue Marine Service. May 6, 1891.

Asst. Surgeon A. Condit, relieved from duty at Chicago, Ill.; ordered to Portland, Ore. May 9, 1891.

Asst. Surgeon H. D. Ceddings, to proceed to New York on special duty. May 9, 1891.

Asst. Surgeon B. W. Brown, to report to commanding officer, Revenue Str. "Rush," on the 14th inst. May 7, 1891.

Surgeon H. W. Austin, detailed as member of Board of Examiners, Marine-Hospital Service, April 21, 1891. Detailed as chairman of Board for physical examination of officers and candidates, Revenue Marine Service, April 29, 1891.

Surgeon John Godfrey, detailed as member of Board of Examiners revoked. April 21, 1891.

Surgeon Fairfax W. Irwin, detailed as recorder of Board for physical examination of officers and candidates, Revenue Marine Service, April 29, 1891.

P. A. Surgeon P. M. Carrington, to proceed to Ferdinandina and Jacksonville, Fla., as Inspector. May 1891.

Asst. Surgeon W. G. Stimpson, when relieved, to proceed to Savannah, Ga., for temporary duty. May 2, 1891.

Omitted from Previous List:

Asst. Surgeon B. W. Brown, detailed as medical officer, Revenue Str. "Rush," during summer cruise. April 14, 1891.

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ORIGINAL ARTICLES.

MEDICAL PROGRESS.

Read by Title in the Section of Medicine and Physiology, at the Forty-Second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY C. R. EARLEY, M.D.,
OF RIDGWAY, PA.

My time is so limited that I can only make a very slight review of the practice of medicine, showing the progress made during so many years.

The present time can boast of great progress; yet we have much to regret as to the failures to come up to the standard of olden times in many respects. We should look well to this.

Medicine has its history, its philosophy, its politics, its literature, of which the world at large knows nothing. It has its arts and occupations; it has its organizations and institutions, and dissections, not always amenable to logic or to the learning of the schools. In ethics, traditions and superstitions it dates anterior to the Church. Being in use before the civil law, is it any wonder that the members of our profession, drawn together by such ties, should unite as a brotherhood? Such has ever been their course. The Druid of early Gaul and Britain, the Asclepiades of Greece, the Priests of Egypt, the Lamas of Central Asia, the Fraternities of the Middle Ages, and up to this time medical societies and colleges in our own and other countries devoted to the healing art, are the proof of this. Wherever freedom has existed, or tyranny would permit, organization and development have been the rule of our profession.

With these facts before us our duty is plain. Continue this good work and improve every day, and show ours to be a progressive profession. Let us look back for ages and review its history up to our time, that we may the better understand, and may know how far we have advanced, and to what we owe our progress. The labor before us is, how we can best elevate the profession for those who are to follow.

Among the early Egyptians were a large and influential body of priests, who received about one third of the income of the nation. There were several orders of them. A majority of them were skilled in medicine, and, as many supposed,

practiced gratuitously among the people. (See Schultze, page 24, from Diodorus.)

"Each physician applies himself to one disease and not more." Every place was full of physicians; some for the eyes, others for the head, some for the teeth and others for internal diseases—what we call specialists. The embalmers were also of this class, and their skill and standing are generally respected to this day. The skill of the Egyptian priests or doctors made them very popular, not only among the Egyptians, but the rulers of the surrounding nations called for them. Cyrus sent for the ablest oculist of Egypt. We learn from Aristotle that the practice of the Egyptian priests was in conformity with a law prescribed, yet the physicians were allowed to alter the mode of cure, which the law prescribed to them, after the fourth day, but if they did sooner they acted at their own peril.

The youth who were destined for the profession, if not the sons of the initiated, were not allowed to begin until after the completion of their preparatory education, from their seventeenth to their twentieth year. But the sons of the physicians began earlier, and with both the course of training continued to about their twenty-fifth year. The admission or initiation of those who had passed the preliminary examination consisted of the three grades.

The ceremony of the first grade was called illumination, or the study of theories, logic and philosophical or abstract principles and rites. The second grade was styled inspection, which included the looking on or practical studies, or the examination of diseases in the houses and at the bedside. The third grade, which was the end of their study, and the design of the other two, was called the binding of the head, or coronation. The binding of the head was equivalent to what we call graduation, and never took place before the completion of the fifth year. It will be remembered that not all presenting themselves for admission as students were accepted, as a thorough examination was made as to their preliminary qualifications and education, their general character, moral and intellectual. They must be perfectly free from all physical deformities, and have a clear and good voice and no impediment of speech.

We are informed by Hippocrates, in reference to his profession, that "Things which are sacred are to be imparted only to sacred persons," and that "It is unlawful to impart them to the profane until after their initiation into the mysteries of the science." With reference to purification, or the training which should precede illumination, he says: "Whoever is to acquire a competent knowledge of medicine ought to possess the following advantages: A natural disposition, a favorable position for study, early tuition, love of labor and leisure." Writing to his son, the author of the Hippocratic Letters says: "Give due attention, my son, to geometry and arithmetic, for such studies will not only render your life illustrious and useful to your fellow beings, but your mind more acute and perspicacious in arriving at fruitful results in everything pertaining to your art."

The candidate having passed the first ordeal of preparation, and commencing the ceremonies of illumination, was obliged to subscribe to the oath, which was a formula analogous to that which was enjoined among the Pythagoreans, and was in the following words: "I swear by Apollo, the Physician, by Esculapius, by Hygeia, by Panacea and all the gods and goddesses, that according to my ability and judgment, I will keep this, my oath and stipulation, to reckon him who teaches me this art equally dear to me as my parents, to share my substance with him and to relieve his necessities if required; to look upon his offspring on the same footing as my own brothers, and to teach them this art, if they shall wish to learn it, without fee or stipulation, and by precept, lecture and every other mode of instruction. I will impart a knowledge of this to my own sons, to those of my teachers and to my disciples, bound by stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen, which according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to any one, if asked, nor suggest any such counsel; and in like manner I will not give a woman a pessary to produce an abortion. With purity and holiness I will pass my life and practice my art. I will not cut persons laboring under a stone, but will leave this to be done by men who are practitioners of this work. In whatsoever house I enter I will go into them for the benefit of the sick, and will abstain from any seduction of females and males, of freemen and slaves. Whatever in connection with it I see or hear I will not divulge, as reckoning that all such should be kept a secret. While I continue to keep this oath inviolate, may it be granted to me to enjoy life and the practice of my art, respected by all men and at all times; but should

I trespass and violate this oath, may the reverse be my lot." See Adam's Hippocrates, Vol. II, page 779.

The course of education among the Asclepiades was in conformity with the national habits. After subscribing to this oath the pupil was allowed to proceed to the business of illumination, which consisted of the committing to memory certain traditions and precepts, in listening to his instructor, in the description and management of diseases within the temple or at the bedside of the sick, and combining with the knowledge thus obtained a general acquaintance with the rules of health. Next in order came the business of inspection. It immediately preceded coronation; this had relation to practical subjects, probably the treatment of diseases under the immediate supervision of the instructor. The ceremony of coronation took place at the completion of the term of study, as the ceremony of graduation takes place in our colleges at the present time.

In those days medicine was principally taught orally or by tradition and example, therefore the requirements could not have been very extensive. This main study of the treatment of acute diseases was the regulating of the diet, etc. Epidemic diseases were looked upon as of divine dispensation, with which they dare not interfere. A knowledge of the general rules of health and the influence of diet, exercise, climate and locality attracted much of their attention. Why should not the same attention be paid to the subject at this day?

In the management of injuries and external diseases they were but little behind those of the present day. Their remedial agents were the lancet, active cathartics, emetics and diuretics, cataplasms, ointments, escharotics and mechanical appliances. They had but little knowledge of anatomy and physiology; they did not interfere to any extent with chronic diseases.

Up to the days of Herodicus, one of the teachers of Hippocrates, he recommended in chronic diseases, exercise and regulated diet. This innovation was very unpopular. Plato upbraided him for his course, and declared that no attempt should be made to cure a thoroughly diseased system, and thus continue a long and miserable life to the man himself, as well as to his descendants. Asclepius did not think a man ought to be saved who could not live in the ordinary course, as he would be of no service to himself or the State.

Hippocrates can properly be called the father of the medical profession. He was born 460 years before the birth of Christ; was a few years older than Plato and younger than Socrates. He received his professional education under his father, Heraclides, at Asclepion of Cos, in his youth, at Athens and other places. He had the

instruction of the best teachers in science and philosophy.

Hippocrates in his book, "Air, Water and Places," inquires into the effect of particular exposures of the seasons and their vicissitudes; the influence of winds and properties of water. He refers to diseases prevalent in different places and during different times of the year. He calls attention to diet and exercise, showing how excess or deficiency in either may prove the cause of disease. If practitioners of this day would only follow this noble example and in all cases look well to the surroundings, location, diet, water used, drainage, cleanliness, as well as habits of the patients, it would do great good.

From the time of Hippocrates and immediate followers to the present time, a system of vaccinations and changes in the theories and practice of medicine and surgery has been going on. Every day we see in print some new invention or theory suggested by members of the profession upon the diseases of the day. One cures all diseases by cathartics and emetics, claiming they are generated or produced by accumulations in the stomach and bowels; others that all diseases can be cured by heat, as one specialist of the kind advocated, giving as his reason, cold is death and heat is life, therefore as long as we can keep up the heat in the body the patient will live and must rally under its influences. Others, from the days of old to the present time, spring up to cure all diseases by bleeding, frequent and profuse depletion, and thus relieve congestion of different parts of the body from excess of blood. Aretæus, who had written eight books, was an advocate of the free use of hellebore as the great remedy for nearly all diseases. He also advocated the system of drastic medicines, and was among the first to recommend cantharides for blistering. Sydenham, born in 1624, differed greatly from his predecessors in their modes of treatment. He published his work entitled "Methodus Curandi Febris," in 1666, and it was he that first directed cool air and other antiphlogistics in the treatment of small-pox and eruptive fevers.

The Brunonian system was based on the views of Dr. John Brown, of Edinburgh. He arranged diseases under two divisions, sthenic and asthenic. He maintained that all agents operate on the body as stimuli, so we had only to increase or diminish the force of these according to circumstances. At the head of stimulants he places wine, brandy and opium, in the recommendation of which he is very liberal, and especially betrays his partiality to them by assertions contrary to universal experience. He found them in his own person the best preventative of gout, and is said to have prepared himself for his lectures by large doses of laudanum in whisky, and thus aroused himself to a degree of enthusiasm bordering on frenzy.

The novelty and imposing simplicity of his doctrines procured him at first quite a numerous class, but being irregular in his attendance, and his habits of intemperance increasing, his class fell off by degrees, and he was at length so embarrassed as to be obliged to leave Edinburgh in 1786. He then settled in London, but met with little success, and in about two years after died. His opinions found many supporters in this country as well as in others, but they appear to have nearly fallen into deserved oblivion.

Berhaave's system was founded on the teaching of Dr. Herman Boerhaave, who claimed to have selected his mode and manner of treating diseases from all systems and theories of those that preceded him, consequently he was called or styled an Eclectic.

As we have seen heretofore in this report, many of the old practitioners deputed greatly upon depletory measures, particularly blood-letting. In most of the fevers of that day, as we are told by Rush and others, the sheet-anchor in the treatment was considered to be bleeding and drastic purgatives. This was kept up by one class and denounced by another, we may say, up to within the last forty or fifty years, since which time we have made great progress in omitting the use of the lancet. In scarlet fever bleeding was the practice of many of our most renowned physicians.

My own recollection of scarlet fever dates back to when I was a boy of seven years. Dr. Dana, a physician of high standing of Friendship, N. Y., and my father's family physician during a scourge of that disease, used the lancet freely in all cases, except two boys. The reason they were not bled the doctor and mother, in each instance, were unable to hold the two bad boys as they kicked, screeched and hollowed, arousing the neighbors, when the doctor said: "We will have to give it up; they will die but I cannot help it, we have done all we can." They recovered without any sequel while the other cases died; and here is one of the boys.

My first year's practice of medicine, in 1845, was in that village, and the old doctor referred to had retired from practice and spent much of his time in our office, and often repeated and laughed about his experience in the cases alluded to, stating that from that time he never used the lancet in scarlet fever.

In my first practice and experience it was considered malpractice to omit bleeding in pneumonia, pleurisy and diseases of like character. I shall never forget the last case I bled and the first I did not bleed in pneumonia. April 12, 1846, I was called to treat a young man with pneumonia, in Ridgway, Pa., and as I had been educated a physician in the state of New York and my first practice had been there also, where

the thumb lancet was always used, I took it to bleed the patient, but all the friends refused to have it used, calling it a "butcher knife," and, unlike my usual decided position, I stepped into a store and bought a spring lancet,—which was not considered a surgical instrument—and snapped it several times without effect on account of fear, as I could not guide it, but succeeded at last in bleeding the patient. About an hour after this I was called to see another young man with the same disease, which was prevalent at this time—as the raftmen had exposed themselves to the inclemency of the weather going down the river. I drew my lancet and met with the same positive protest against the use of it; so I took the spring lancet the second time and let it snap. The blade broke and flew across the room. I went to the door and threw the balance of it as far as I could, and said if he could not be bled with my instrument he might go without and die, as I was not responsible.

Under a treatment of small doses of ipecac and the solution of antimony tartrazatum, and free bathing with salt water, with thorough friction of the body, three times a day, in two and one-half days my patient expectorated easily and freely, the surface was generally moist, and in five days was about his room, and in a few days well; while the one whom I bled, equally as stout and robust a young woodsman, in six weeks began to walk out a little on pleasant days. From that time to the present I have never resorted to bleeding in pneumonia, nor in any case save apoplexy or puerperal convulsions, or where immediate danger required it.

In 1793-94 Dr. Benjamin Rush, Professor of the Institutes and of Clinical Medicine in the University of Pennsylvania, took bold grounds against yellow fever being caused by contagion. He says: "I expected the fevers of the summer and autumn would be of a violent and malignant nature. I was the more disposed to entertain this opinion from observing the stagnating filth of the gutters of our city; for the citizens of Philadelphia, having an interest in rejecting the proofs of the generation of the epidemic of 1793 in their city, had neglected to introduce the regulations that were necessary to prevent the production of a similar fever from domestic putrefaction.

"From none of them had I observed the fever to be propagated by contagion, and therefore I took no steps to alarm my fellow-citizens with the unwelcome news of its being in town.

"On the 25th of the month, 1794, two members of a committee appointed by the Government of the State for taking care of the health of the city, called upon me to know whether the yellow fever was in town. I told them it was, and mentioned some of the cases that had come under my notice; but informed them at the same

time that I had seen no case where it had been contagious.

"As I considered the filth of the gutters and the stagnating water in the neighborhood of the city to be the remote causes of this fever, I advised the committee to have them both removed, and thereby to prevent the spreading of the disease."

Dr. John Brown, in his writings on the subject of yellow fever in America, says: "It appeared six different times, and all about the same time in the year, about the first to the middle of August, and declined or ceased about the middle of October.

"In the years 1732, 1739, 1745 and 1748 in Charleston; in 1791 in New York, and in 1793 in Philadelphia, and in every locality and season it has been proved beyond a doubt that the disease was caused by the influence of the weather, or the vicissitudes or surroundings of that particular locality, and not from contagion. Let a person in the height of a pestilential disease be removed from the atmosphere which occasioned it to one more pure, he will communicate the infection to no one." He then quotes Dr. Rush in speaking of yellow fever in Philadelphia, when Rush says: "This fever did not spread in the country, even carried there by persons who were infected and afterwards died with it." This position taken by Drs. Rush, Brown and others of olden date was fully sustained during the last scourge of yellow fever in the southern cities. Refugees from the south were received in many cities and towns of the north, middle and western States, but were not allowed to bring with them any of their household goods or clothing.

The following preamble and resolutions were unanimously passed by the Mississippi Valley Medical Association, held in St. Louis in September, 1888:

"WHEREAS, The existing deplorable condition of a considerable portion of our southern territory, induced by the spread of epidemic disease and the alarm thereby caused; believing it to be the duty of this Association, in view of the pressing exigency, to take every step possible to allay panic and reassure alarmed communities and states; therefore, be it

Resolved, That a committee of not less than five persons be appointed by the president to consider the present situation and report to this Association at a subsequent session what action in their judgment should be taken to secure the desired end."

The committee on yellow fever presented the following report, which was unanimously agreed to:

Resolved, That it is the sense of this meeting that yellow fever is not contagious in the ordinary sense of the term; that it cannot be communicated from the sick to the well.

"That the mildness of the present yellow fever invasion and lateness of the season, warrant us in strongly deprecating the fear now existing in many southern communities, the present rate of mortality being not greater than that which ordinarily obtains in typhoid fever.

"That the self imposed quarantine regulations now in force in the States north of the infected districts are not

only absurd, but inhuman and unworthy of the age in which we live.

"That quarantine regulations, to be effective, should apply to baggage, clothing and effects, rather than to the person of the individual.

"That when such effects come from infected districts they should be destroyed by fire, and the owner reimbursed from public funds.

"That cities and towns to the north of such districts and upon lines of travel may safely provide hospitals for the reception and care of the sick. George Homan, M.D., Missouri; J. A. Larrabee, M.D., Kentucky; David S. Booth, M.D., Illinois; J. D. Griffith, M.D., Missouri; G. A. Collamer, M.D., Ohio; George N. Kreider, M.D., Illinois; A. P. Waterfield, M.D., Tennessee, and A. W. Williams, M.D., Hot Springs, Arkansas, Committee."

Being a member of that Association, I was present and greatly interested in the candid, fearless and able discussion that followed those resolutions. Many of the members were well posted in the disease, having had practical experience; while the secretary of the Illinois State Board of Health was present, being on his way home from a full investigation of yellow fever in the south, and delivered a very able and clear address before the Association on the subject.

On my way home from St. Louis, September 28, I visited Louisville, which city had opened hospitals for the reception of yellow fever patients brought from the infected places south. Those sick were placed in the hospital without any household goods, or clothing worn by them at home, and no person, nurse or physician attending the cases had the disease in any of its forms. Of course I visited them while there to post myself in the disease.

We have a great craze on other diseases which are now pronounced contagious. Phthisis pulmonalis, pneumonia, and many other diseases of like character are pronounced contagious, yet all practitioners of experience must agree that they are not propagated by contagion.

For the last thirty years many of our most earnest medical gentlemen insist that diphtheria is a contagious disease, and in place of educating our citizens to look well to cleanliness of the surroundings and purity of the air breathed, the water for drinking, cooking, etc., as well as to the purity and healthy condition of food used, they are taught to shut themselves up in their damp, musty houses and not allowed either good air or sunlight, and no one allowed to go into their dwellings, to give aid and assistance to the sick and their families, and also public funerals prohibited. Why all this? Why not, on being called to a house where diphtheria exists, at the very first investigate and examine the house from garret to cellar and all the surroundings of the house, supply of water, outhouses, drainage, etc.? We all know that this disease is a filth disease, caused by bad air, water and food, one or all, and that it is a constitutional or blood (poison) disease. I will refer to the condition of one small town of about 200 inhabitants.

In May, 1876, I was called to B—, by Dr. H., to consult and advise with him in his course of treatment of diphtheria. On my arrival I found that eighteen had died and twenty-two were sick. The treatment in use was mercury internally and the local use of tincture of iron to the membrane. This treatment was at once discontinued and my usual constitutional treatment adopted—chlorate of potassa, chloride of sodium, bicarb. of soda, quinine, iron and stimuli, as the case indicated; also free bathing, etc.

The great mystery to be solved by the doctor and citizens was where the contagion came from, as there was no other case of diphtheria in the surrounding country, and no one had been away or any stranger known to have visited the place during the spring. After a preliminary inspection of the location, to settle all questions, I called them to a mill-race leading from a dam, situated above the town, to a saw and flouring mill at the river below. This dam was used to hold water for the mills, and logs were floated down the stream and held in the dam to be passed out in the race as required. The mills required repairs and the water had been shut off from the race, which was close by and parallel with Main street, in the bed of which were found rotten wood, dead animals, in fact all kinds of filth and vegetable matter in an advanced stage of decomposition. The air was filled with noxious odors, which were almost intolerable. Their attention being called to this condition of things, all question as to the cause of contagion was considered settled. I at once directed that this mass of filth be raked up and burned, the bed of the race strewn with fresh lime, fences, outbuildings and cellars whitewashed, and quicklime placed in the rooms of each house and allowed to air slack. The result: One of the twenty-two patients then sick died, one other case developed about this time, who, with all the others, recovered. Of a total of forty-one cases nineteen died, and twenty-two recovered.

We can truly say the same of cerebro-spinal meningitis. Are we progressing in thus ignoring science and every principle of hygiene?

Many other diseases of this day are treated in the same way, by depletion and local means, as if they were merely a local disease, and calomel, mercury and opiates used when tonics, stimuli and constitutional means should be employed during the entire course. Let us think, use reason and act at once.

Among the medicines resorted to in many cases by the old practitioners was the free and excessive use of opium. It was freely given in nearly all cases, especially inflammatory diseases, and was recommended strongly in the treatment of yellow and other fevers. In the old Brunonian system it was carried to a fearful extent. Dr. Parr says the effect of opium on the living body

has been represented in very opposite contradictory terms. It has been keenly disputed whether it was a stimulant or a sedative. If by stimulant is meant a medicine which, by its action on the stomach, will increase the heat of the body and quickness of the pulse, it by no means deserves the title. If given to a healthy person the pulse and heat are both lowered, and if the dose is increased nausea, faintness and headache follow, when the influence of the medicine is at an end. This brings it within the class of narcotics. When the change in the ideas of the circulating fluids was abandoned it was doubted whether it acted upon the stomach or heart, and the second Monroe has published some experiences which seem to say that its chief effect is on the latter (heart). This, however, only proved that when opium is injected into the sanguiferous system it produces no effect at all until it reaches the heart.

If fevers consist in debility and irregular action, and opium is a sedative, producing also irregular action, it will appear that no medicine is so unsuitable to the disease. This was the opinion of Dr. Parr.

All authorities agree that opium acts as a sedative or narcotic. It has been given to allay pain, produce stupor and sleep, but the drug was used promiscuously by the old practitioners of one hundred years or more ago, and now, more especially, its use is being revived to a fearful extent. It is employed by practitioners of respectability, I may say in nearly all the cases they meet with. It is used to save trouble of investigating and examining into the cause, remote or exciting, of the disease they may be called to treat. Patients have been kept under the influence of hypodermic injections of morphia, not only for days but weeks, without investigating the cause of sickness. When visiting a patient they should never leave the bedside until satisfied what indications they have to meet, and what will meet the indications and thus remove the cause, and not stupefy or paralyze the actions of the heart and all organs of the body, and deprive them of their ability to perform what nature has designed them to perform. It is time the profession frown upon such evasions of duty. Daily I am called to see patients that have been under the treatment of either opium, morphia or hydrate of chloral by the mouth, of morphia or cocaine by hypodermic injections, without any regard to the cause of the disease or the effects that these drugs are producing. Some years ago I was called to see a patient who had been treated about three months for what they called rheumatism of the knee joint, by a constant course of hypodermic injections of morphia at the knee. I investigated the leg above the knee and found the patient suffering from carious bone: I at once cut down to the femur on the inside of the leg and obtained a free discharge of thick offensive pus. By scraping

the bone thoroughly, carefully and freely, using washes and disinfectants, it soon healed from the bottom, and up to this day he has never had any pain or further trouble with the knee joint. I knew a case about three years ago of a young man who had cut his leg while working in the woods. This cut was filled with morphia before dressing it, which of course produced stupor, and he remained unconscious, constantly rolling his head and moaning until he died.

The effects and results of the abuse of opium could be multiplied from my own experience to pages, but will refer you to what Pomet says: "Its effects are always narcotic, whether used externally or given internally; given in clysters it operates quicker than by the mouth; applied to the eyes and ears, it has caused blindness and deafness, and a plaster of it on the head has caused death. It ought not to be given to plethoric persons without first bleeding them, nor at all to women at time of the menses, etc., nor even upon a full stomach, for it prevents digestion." (Pomet's History of Drugs, Fourth Ed., page 216, A.D. 1748).

We have quoted what Parr says on the use of opium, also, and in this it will be seen we have made but little progress, but are falling back into a worse condition and habit of practice than has existed in all the history of medicine. Can it be reformed? Can we progress from this time onward?

At this time the country is crowded with those practicing medicine under some system they claim to be the only one founded on reason and science. The Thompsonian practice was advocated by Thompson, of New England. He claimed the human body is composed of four elements, earth, air, fire and water, and that metals and minerals are in the earth, and these materials being taken from the earth, have a tendency to carry all back into the earth who use them; and as the tendency of all vegetables is to spring up from the earth, and therefore to keep mankind from the grave, all medicine must be vegetable. We all remember how they scattered their hot drops, No. six, and vegetable composition, over the country.

Homeopathy is a system which maintains that disease in the human body must be cured by producing other disordered actions of like kind (*similia similibus*), and this is to be accomplished by infinitesimal doses, and really nothing but sugar of milk at that. The whole practice and system is visionary.

Hydropathy is another system, which is founded upon the treatment of all diseases with water, packing in wet sheets, etc. Yet this also has its followers and advocates.

Vitapathy, Vita—Life vs. Pathy—Disease. Of later years we have this system, which puts on more nonsense than all the others. Its advocates say they have the only true system of health and

life, and the American Health College in Cincinnati gives the highest diploma of any college in the United States.

There are many new things in Vitapathy. For instance, "our electro-magnetic warm air bath surpasses all hot springs, magnetic springs, electro-thermal, Turkish, or any kind of vapor, heat or electric baths, as it combines all those and much more, uniting oxygen, heat, light, electricity and vital magnetism all in one luxurious, cleansing, purifying, invigorating and vitalizing process, developing youth, invigorating age, increasing beauty and prolonging life. This bath is used mostly for colds, rheumatism, neuralgia, fever and ague, malarial and bilious diseases, nervous and chronic diseases generally. Healing by the laying on of hands, together with the new discoveries in Vitapathy, makes a grand, successful, powerful treatment. This is what we practice and what we preach, and with a full knowledge and faith in this doctrine can annihilate disease, banish wrong, open wide the gates of life, break down the walls of hell, kill the devil, perfect our manhood and make this world a paradise."

The above is a slip cut from one of the notices announcing their system, etc.

Eclectic practice has had its day under that name. They claimed to elect the best means used to treat disease from all systems up to their day. Eclectics were, and are now, nothing more or less than a combination of the old botanic or root doctors and Thompsonians, and under this name, eclectics, their school or so-called college for this country, was at Cincinnati. Agents often canvassed the country with diplomas filled, except the name of the person they graduated, and filled them out for those that would pay twenty-five dollars.

Botanic System. There were also persons who claimed to be doctors and treat diseases with roots, herbs and barks.

When I came to Elk county in 1846, four were in active practice. They usually took with them a school basket filled with "catnip" (*nepeta cataria*), "mullen leaves" (*folia melezomum*), "smart weed" (*polygnum hydropiper punctatum*), "boneset leaves" (*folia eupatorium perfoliatum*), "mandrake root" (*rad podophyllum peltatum*), "butternut bark" (*cortex juglans cinerea*), "pennyroyal" (*mentha pulegium*), "tanasia or tansy" (*tanacetum*), "dandelion root" (*leontodon taxaxacum rad*), "skunk cabbage root" (*rad dracontium foetidum*), "elecampane root" (*rad inula helenium*), "cranesbill root" (*rad geranium maculatum*), "pipsisiwa leaves" (*folia chimaphila umbellata*), and a host of other weeds and roots.

Christian Science, etc. Every age has its delusions and their victims, including our own, notwithstanding the growth of knowledge and the rapid and boasted advancement we are making

in our system of education. Some of these delusions, frauds and humbugs are now perpetrated under the shelter of the words, "Christian Science." This system of concentrated nonsense has been invading our country and has its followers. There are different schools, and they do not agree in all particulars, but unite in one thing, there is no such thing as matter; all is "mind." They contend all disease is an error; that we are not sick, but think we are sick; that we do not die, but think we die. Strictly speaking, there is no such thing as "disease." What men imagine to be disease is an error of their own minds. Then comes the Faith Cure; a class of pretenders who have many followers and believers, who forsake their physicians at home, allow themselves to be humbugged for a time by what are called "Faith Cure Doctors." In every case I have known, patients suffering from disease, return to their homes for treatment.

We also have Pasteur, Brown-Séquard, Koch, and others, with their "isms and cisms."

By referring to the early writers, there was a class of physicians then that we of this day call specialists. Each physician applied himself to one disease and not more. This system in days of the limited facilities for medical education, especially in anatomy, physiology, materia medica, therapeutics, chemistry, etc., was very proper, but at this time every student should be thoroughly educated in all the diseases of the body, all the surroundings of these diseases, and be ready to meet each indication.

In the country we see the evil of the present system of specialism to a greater extent than is seen in cities. Daily we meet with cases sent to cities for special treatment, such as affections of the eyes or the ears, headache, rheumatism, tumors, ulcers, lungs, rectum, bowels, stomach or liver, and female diseases, and returned after a long stay with no improvement, and often in a much worse condition than when they left home. Why? The treatment was for a symptom and not the disease. They extensively advertise their specialty. Some call themselves cancer doctors and draw many to them for that disease, and finding a tumor on some part of the body, pronounce it cancer and use the knife to remove it, when if they would stop and think a moment and call to mind the cause of these tumors and ulcers, would never use the knife until the system was prepared by constitutional treatment. In a malignant tumor or ulcer, why remove the symptom and leave the cause to reproduce it? They do, however, and take their money. We all know if they are cancers they will in every case return, in due time, unless treated by some regular physician constitutionally, thus purifying the blood generally by getting the malignant disposition of the body eradicated. Another class of these doctors use caustics and plasters,

as they say, to eat them out, with the same or worse results. We should remember what Hippocrates says on cancer: "It is better not to cure hidden cancers, for they who are cured quickly perish; whilst they who are not cured live longer." Then why tamper with human life, under the name of "Specialist?"

Thus it will be seen that the medical profession at this day have the same trouble with quacks and quackery as is referred to in the writings of Hippocrates, Herodotus and others, when it was said: "Even at this day there were designing men who were physicians only in name, and who gave themselves up to disreputable practices; against whom the regularly initiated had no redress." Are we not placed in somewhat the same condition, and with no other hope or redress than to stand together as a band of brothers, in our regular Medical Society, County, State, District, American and International Medical Congress, and advocate the elevation of the profession, not by legislation of States or Congress of the United States, but by requiring a superior education of all applicants for "illumination, inspection and coronation," also honesty of purpose and devotion to their duties, etc? Thus standing together as one educated body, let us frown upon every effort to bring down our high standing to the level of those before referred to. If we expect protection by legislation, remember laws passed by the legislature or Congress of one year may be undone in another, and we must expect to be ever in doubt as to our standing.

How are we to elevate the profession of medicine and surgery? Is it to be done by passing laws reflecting upon the honesty and ability of our medical colleges, and declaring the diplomas granted by them worthless and to be treated as so much waste paper?

The several States have chartered medical colleges in their respective States, and granted them full power to receive students and graduate them, or confer the degree of Doctor of Medicine, which diploma should be good all over the world. The requirements of these colleges for receiving students and conferring the degree of Doctor of Medicine, etc., should be the same in every State of the Union, and should be marked out by the American Medical Association, and all colleges required to fully carry out the rules and requirements, and see them faithfully enforced as follows: The American Medical Association directions to be strictly observed by the medical colleges of the several States. To regulate the study of medicine and surgery, and defining the duties of students, preceptors and the medical colleges. Be it resolved, by the American Medical Association at its annual meeting held at—on—day of—month, A. D.—, and it is hereby declared by the authority of the same,

that from and after the first day of—month, the medical colleges of the United States of America shall require all students of medicine and surgery to present to the Dean of the college he or she proposes to attend, a sworn statement that he or she commenced the study of medicine and surgery in the office of—, M.D., practicing physician and surgeon, on the—day of—A. D.—, and studied two years in his office and under his directions and instructions. Also the student to present an affidavit of his preceptor: I, —M.D., practicing physician and surgeon of the—, County of—State of—, having made a full and thorough examination of—, of—, of—, and State of—, whose name is written in his own proper handwriting on the margin of this certificate, do hereby certify that he was found well qualified in respect to moral character, learning and ability to be admitted as a student of medicine and surgery, and on—day of—, A. D.—, he was duly received in my office as a student of medicine and surgery, and continued under my instruction and inspection for the term of two years to the—day of—A. D.—, and during that time has proved himself in every way worthy.

Signed, —M.D.,

Practicing Physician and Surgeon.

Sworn and subscribed before me this—day —A. D.—.

In the country it is well known that a young man working in the woods or acting as clerk, at the time of the opening of a course in a medical college, leaves for college and returns at its close, begins the work he was engaged in before, and finally returns an M.D. He is recorded as a student of Dr.—, whom, as is frequently the case, the doctor never knew.

Students should be required to read the medical authorities under the inspection and direction of their preceptors, and thus be able to understand and know what our professors are talking about. Shall we allow our medical colleges to be treated as frauds and humbugs? All of which is respectfully submitted.

DIPHTHERIA.—H. Wolf (*Fortsch. d. Med.*, 1890, 8, 954) has used a combination of menthol with sugar in the proportion of 1 or 2 to 20 in the treatment of diphtheria. This powder he rubs upon the parts affected by the disease. The deposit often sticks to the brush and is removed by it. The brush is then again carried into the throat and the menthol-sugar thoroughly rubbed into the part. This procedure is carried out two or three times daily. Even by the second or third day the dirty-gray appearance disappears, and a clean excavated ulcer remains which quickly heals under the continuance of the treatment. To control the fever he employs antipyretics.

ANTISEPTICS.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C. May, 1891.

BY HIRAM CORSON, M.D.,
OF PLYMOUTH MEETING, PA.

There has been a decided tendency for the past few years on the part of persons affected by the antiseptic and germ theories, to make it imperative on those who practice midwifery, to obey the rigid antiseptic rules laid down by teachers. I saw somewhere that in a discussion on the necessity for antiseptic measures during parturition, and their continuance during the lying-in period, a prominent physician said "that if he should be called on to testify, in a prosecution for malpractice where death had occurred during confinement and antiseptic precautions had not been used, he would certainly testify that it was criminal malpractice." This was an alarming threat, as it placed practitioners of midwifery in constant peril, and it impelled me to speak to our County Medical Society about it, and to urge them to make some preparation for such an emergency. The Society then appointed me to procure from practitioners of long experience—men who had attended hundreds, and even thousands of women in labor—statistics in relation to the fatality caused by peritonitis, during their many years of attendance on puerperal women. While a student of medicine in 1827 I had my first case of labor. Then there was no dread of puerperal fever being caused by germs, introduced into the uterus or vagina by the hand of the accoucheur, but the few cases which did occur were attributed to the powerful, long-continued uterine contractions, or to injury by the forceps, with laceration and subsequent inflammation of the parts, and to extension to the peritoneum. What obstetrician has not known how sore and tender, on pressure, the womb oftentimes was, when pressed upon soon after childbirth—even before Credé began his unnecessary and heartless wrenching and punching of it—and yet rarely did puerperal fever occur. So with this view of things I started in this specialty and kept at it for sixty years, attending more than three thousand women, ever amazed by the fact presented to me of the rare instances of mortality attendant on gestation and childbirth; the latter process and after-treatment of the mother being often attended by conditions which would now be considered extremely perilous to life, in almost every instance, by those who are pressing on us the use of antiseptics, to secure safety to puerperal patients. In those days our education in midwifery was little more than the details needed to conduct an ordinary labor. Oh! how poorly I was fitted to aid the patient in her apparently perilous work; and after the labor was over, how worse than useless, even dangerous were some of the well-meant measures of the

nurse. As soon as the child was born, a bowl of "tiff"—gin and water, or whisky and water sweetened—was given to the patient—nor was the doctor forgotten—and then for many days, as drink, hot teas, balm, pennyroyal and others, but not a drop of cold water. Such was the custom, but never mine. Forbidden as it was, I insisted on cold water as drink. I had attended a good many cases and had often, on my after visits, been met, on entering the room, by an odor recognized as that of putrid blood, and so offensive that it was unpleasant to remain there. I spoke of it to the nurses, but they said it was always so, and as I was a mere boy, when compared with the venerable matrons who, in those days, ministered to the lying-in women, who were so neat and clean in their own persons, I concluded that the "cloth" had perhaps remained there too long, and that its removal would do away with the fetor; so gave directions to have a fresh one applied, and went away. So things went on in most of the cases for a year or two. As a general thing the fetor was very evident for a week or more, and finally was so bad in one case, that I determined to see what condition the patient was in; when lo! I found that she had not had a single washing of the genitals and contiguous parts, or a removal of soiled clothes since the end of the labor, though a whole week had elapsed. On expressing my surprise and disgust that the nurse had left her in that condition, and without a regular cleansing every day, I was told that it was not the custom to do so, through fear that the washing and change of clothes would cause her to "take cold." I had succeeded an aged practitioner in that region, and so I suppose the practice had gone on during many years with the nurses for the majority of lying-in women. If these women thus treated, with no antiseptic measures before labor, none during it, nor afterward for the proverbial "nine days" which were to complete the lying-in period, passed safely through this ordeal, and repeated it again and again, not one in many hundreds suffering from puerperal fever, is it reasonable that other precautions are more needed than those of cleanliness obtainable without the use of antiseptics, which are now so much used, and which, from their poisonous nature, have in some cases caused the death of the patient?

From the first days of my practice up to the present time, in threatened abortions or miscarriages, when there was slight hemorrhage going on, a like fetor has been noticed in nearly every case (when the clothes were raised in order to examine the patient), day after day until the ovum was cast off; the vagina being filled with clot and putrid blood. The justly celebrated Professors, Dr. Chalkly James and Dr. Wm. P. Deucer, teachers of midwifery in the University of Pennsylvania sixty-two years ago, directed us in those

cases to tampon the vagina, so that the woman would be safe during the absence of the physician, but every day to remove it, and have a fresh one to take its place, or the same one washed and soaked in vinegar and then replaced. Thus I have sometimes had cases go on from day to day for nearly or quite a week, before the uterus was sufficiently opened—we did not force it open then—to remove the ovum; and seldom have I known anything more offensive than the sponges and putrid blood which were in the vagina, when I attempted their removal, and yet in not a single case in all my sixty years of practice did any of these patients suffer from puerperal fever, or peritonitis, or any other fatal affection of the pelvic organs. In such cases the woman was often examined to ascertain whether or not the abortion was likely to occur, or whether the ovum could be removed, and it was sometimes—often, indeed—necessary to remove the ovum, or the secundines through which the fetus had slipped, leaving them in the womb, but the patient, though sometimes pale and weak, would soon rally and be herself again.

Why then, I ask, if by such practice—whether it was right or whether it was wrong—no harm came to the patient, so far as life was concerned, need we now, when we have good nurses and great cleanliness enforced, use antiseptic precautions and measures or be in danger of criminal prosecutions based on the testimony of obstetrical experts, who see infectious germs under every finger-nail, yet who have never attended half a dozen cases of labor and do not know that we object to the use of antiseptics because several women have lost their lives by the use of them as directed by the germites, though thousands of women in our State suffered abortions every year and got well without a set-back. Two days ago, a physician who has practiced for twenty years and has had a large practice, five cases last week, wrote to me: "As for germs, if they are as numerous and as rampant as writers and teachers would have us believe, then almost every puerperal woman in the country ought to die of peritonitis. The scrubbings and squirts may be all well for hospitals, but in communities of decent people, they seem to me useless and worse than useless." Very recently a writer has given us his opinion, that the physician should take charge of every woman, whom he expects to attend during labor, at least three months before the time of expected labor, and direct her diet, and baths, and everything that aids in keeping the infectious germs at a distance. And about two years ago another physician gave a caution to those of us who might find it necessary to use a rectal injection, to be careful not to let the germs in by that back-door. Why these great fears? Are not women now as they were fifty or sixty years ago and have always been since that time? And did not they

then pass through the labor process under less favorable conditions than now, and yet without peritonitis in more than one of a thousand cases? and even that *one* perhaps the result of violence and not caused by germs. And yet were not the germs as numerous then as now? Ah! here the germites possibly have me; for half a century ago farmers grew potatoes without difficulty; they put the cuttings in the ground and they grew again. Nothing disturbed them; but now what a change! They are planted, send up their stalks and leaves and give promise of a crop; when lo! in a single night, the potato-bug. The beautiful black and gilded germs fasten on the growing plant, and if the Paris-green, the germicide, be not at hand, the plant dies from the destruction of its lungs. So, it is plain that one generation may have no secret, deadly enemy to bring death to happy homes, and yet the next have one. But is it so here? Certainly not. The man who practices alongside of the frightened antiseptic doctor sees not, fears not any venomous germs, and his patients rise from their beds happy in their love of offspring.

Counting but ten miscarriages to every hundred labors, I must have had more than three hundred in my practice, very many of them—indeed, nearly every one of them, being in the condition described above—the vagina, and sometimes the uterus, containing putrid blood for many days, and yet not in a single case did peritonitis occur. The same conditions have been presented to thousands of other physicians in cities as well as in the country.

As we are now directed by teachers to use the rigid antiseptic measures of the present day, even when attending the healthiest woman, and though no infectious disease prevails in the neighborhood—and threatened with prosecution if we do not—it is pertinent to inquire what has been the result in the last fifty years in the practice of physicians who took no precautions against carrying infectious diseases from patients whom they were attending to those women to whom they were called when in labor.

As I was not more successful in my obstetrical practice than other doctors, an account of my experience in this branch of our business will fairly represent the practice and results of the profession for the whole sixty years during which I was in active practice, 1828 to 1888. When attending patients ill with measles, scarlet fever, small-pox or erysipelas, I visited my other sick people, including puerperal ones, the same as though I were not attending an infectious disease. There were but few cases of small-pox came under my care—not more than 15 or 20 perhaps, in all my long practice, and only two proved fatal. One, who recovered, I not only visited as a physician, but through the refusal of the "Poor Directors" to receive him at the almshouse, and the fear of

the family in whose house he was, I felt compelled to visit him twice daily and attend to all his wants during all his illness. I visited families without taking any precautions against conveying the infection to puerperal or other patients.

Scarlet fever prevailed greatly at times during my first thirty years of practice. In a severe epidemic of it, one winter, I had more than eighty cases. Every day of that winter I was in attendance on them, and during that time had many obstetrical cases, and in my sixty years of practice I, of course, had many hundreds of cases, and yet I did not carry any scarlet fever germs to infect a single lying-in woman, though I sometimes went directly from attendance on these cases to the woman in labor. Even more than that; when my children, nine in number, had the disease at different times, two or more at a time, and I nursed them and slept in the room with them, I went, if called to a case of labor, straight to the patient without taking any precautions against conveying the disease to the woman. Some persons, even at that time, inclined to the belief that the infection of measles, scarlet fever, small-pox, and notably erysipelas, might be carried from the infected houses in the clothes—not under the finger nails—and therefore changed their clothes if attending small-pox patients. At that time the dirt under the nails was not known to be the nidus of germs, and washing and scrubbing the hands for the special purpose of dislodging them was an unheard of process.

I believe as fully in the infectious nature of measles and scarlet fever as I do in the contagiousness of small-pox, and yet in my visits to families where the children had never had these diseases, I never carried it to them from other infected patients. If there be danger or a possibility of the infection being thus conveyed by a physician, I think my exemption from being a carrier of it must have been due to the short time spent in the sick room, or to the sometimes long ride in the open air to the next place visited. Even more dreaded than the three diseases is erysipelas as a cause of puerperal fever. As with the others, I took no precautions. If attending a case of erysipelas, if a call were made on me to go to an obstetric case I went at once without using other precautions than with the other three diseases.

Here allow me to report a single case: January 17, 1860, I was called to Mrs. Rey, a young wife within a few days of her expected labor. I found her with enormously swelled oedematous labia, which kept her limbs widely separated. There was an erysipelatous redness covering them. Measures were used to relieve her, though with little change in the size of the swelling, while the erysipelatous redness increased in intensity and extended to the contiguous parts of the thighs.

On the 20th I was called in haste, as she believed labor was approaching, but as the pains were trifling I left her, after waiting a couple of hours, and from that time was frequently with her until the 23rd, when the child was born alive. The labia were then greatly discolored and before her death, on the 29th, sloughed badly. Peritonitis was evident soon after her labor terminated, and was the cause of her death.

Now, between January 17, the day of my first visit, and the 20th, when I was with her two hours, I attended two other women—Mrs. Henderson on the 17th and Mrs. W. on the 19th. And on leaving Mrs. Rey on the 20th, at eleven o'clock P.M., was in attendance on Mrs. Righter at one A.M. on the 21st, and assisted in her parturition. From this statement it appears, not only that I was visiting and in attendance on the first three during their labors, while in daily attendance on the erysipelatous case, and that in two hours after I had examined Mrs. Rey, or had attempted to do it, but failed because the labia were so swelled that I could not succeed in reaching the os uteri with my finger, I was in attendance on Mrs. Righter, and continued with her for some hours, occasionally examining to mark the progress of the case. And after this, when Mrs. Rey's labor terminated, I continued to visit Mrs. Righter and the others as often as was my usual custom, and they all did well. I know full well that all this is not conclusive proof that the poison of infectious diseases cannot be carried from one person to another in the usual way of visiting patients, and in labor of handling them, but it is strongly against such a probability. I have merely stated facts, carefully recorded during many years of practice, for the consideration of readers. When, in 1863, I published two thousand three hundred and thirty-seven cases (afterwards swelled to three thousand and thirty-six) I discovered that few, if any, physicians in our populous country had careful records of their cases, but that they had to depend on their memory if they wished to speak of them in after years. What I have written here is from a careful record made thirty years ago, when I had no expectation that I should ever again have need to refer to these facts. And now when I add that in all this long practice of sixty years, and in profound ignorance of poisonous germs being carried in my clothes, or in the dirt—when there was any—under my finger nails, that though in attendance on 3,036 women in labor, I never once carried an infectious disease to them, I feel that I might rest my case here. But I prefer to add the experience of some experienced physicians in relation to the occurrence of puerperal peritonitis in lying-in women. Professor Traill Green, M.D., of Easton, Pa., known to the profession everywhere in our country, has practiced fifty years, and on enquiring of him in relation to the now

dreaded puerperal fever he replied: "I have been so happy as to have no case of puerperal fever, and I think it has been very rare in the practice of fellow practitioners." Would it be possible, think you, to convince this experienced man who has watched by the bedside of suffering women during half a century, that it is now necessary for him to begin, three months before a patient's expected labor, to visit and prescribe for her, regulate her diet, direct the times for taking exercise, advise her when to bathe, etc., healthy so she be, and when the labor has begun, to scrub his always clean hands, dip them in a solution of corrosive sublimate, bathe the genitals of his patient with it, throw some of it into the vagina, and even into the uterus, keep it by his side, so that he may dip his hands in it every time before "touching" his patient; and then when the child has come and the placenta been removed, to throw a solution of corrosive sublimate, by means of a powerful syringe, into the cavity of the womb "to wash out the blood clot?" I repeat, do you think he would believe such proceedings necessary?—even if we had never heard of the many deaths which have occurred from antiseptics having been used to wash out the uterus after delivery?

But let me pass to other testimony. Another friend of mine, a graduate of the University of Pennsylvania, 35 years ago, a man of undoubted truth, writes: "What nonsense is all this stuff about perineal pads and douching the vagina before and after labor, and antiseptics in obstetric practice? However useful and necessary a certain amount of it may possibly be in lying-in establishments, it seems useless here. I have never had a fatal case of puerperal disease, and have seen but three or four in consultations."

Dr. Wilson, of this county, and a member of the County Society, writes: I have been in continuous practice for twenty years and have always had a large obstetric practice, my cases numbering between one thousand and fifteen hundred, and *have never lost a woman* (italics mine). I have never, as a rule paid much attention to antiseptics. In fact I have always looked upon labor as a physiological process, and the less it was interfered with the better the results.

Dr. J. B. Carroll, of our society, writes: "In fourteen years' practice there has only been one case of puerperal fever."

Dr. J. B. Walter, of Bucks County, says: "In 22 years' experience I have had considerable obstetrical business—five cases last week—and only two cases of peritonitis. One of them arose from a lacerated cervix; was very ill, but recovered. The other was a metro-peritonitis, resulting primarily from over-smartness, and secondly from unjustifiable battering and bruising of the uterine tissues, by a rather eminent man, who needlessly, after two hours successfully turned, and

with my aid delivered a dead body, to be followed in a few days to the land of shades by the mother. In this case all needful antiseptic precautions were taken."

Dr. D. Colvin, of Clyde, N. Y., replies as follows: "Though compelled to relinquish active practice for a time, yet I can report attendance on 1,279 cases, exclusive of consultations. I have never lost but one woman, and she died a few minutes after the placenta was removed. In not one single case have I ever used antiseptic treatment, and have never had a case of puerperal peritonitis, but have seen two or three in the practice of others."

"When I think of the hundreds of women whom I have delivered in log-houses and board shanties, long before the antiseptic treatment was thought of, and have seen those women up in a few days, and caring for their children, with their health unimpaired, not one of them dying, it teaches me that the caution given to us by our old professor of midwifery: 'Beware of Meddlesome Midwifery,' was timely and proper."

"My father, too, was in practice from 1817 to 1876, and I know of only one case of puerperal peritonitis in his practice."

Thus could I go on with just as strong testimony from a thousand country physicians, but it is not necessary, for I would be told of the wonderful achievements of our present surgeons, due mainly, as the germes believe, to the use of antiseptics in their operations. Their success has been marvelous; but was it due to antiseptics? Are there not many successful surgeons and gynecologists who do use them? What stronger testimony can be given for the success of surgeons who use antiseptics, than have been given by our own Goodell, Sutton, and Joseph Price, and Lawson Tait of England, of their unrivaled success in surgical and gynecological operations, by cleanliness, without the use of antiseptics in the surgical treatment of puerperal and non-*puerperal* women?

As their testimony is not at hand I quote from Dr. George Dean, of Spartansburgh, S. C., who spent some days on a visit to the Gynecean Hospital, in Philadelphia, under the supervision of Dr. Joseph Price and Dr. Charles Penrose. "This hospital is a model in its way. It is new and small and lacks many conveniences of some other hospitals, but the lack of them is more than counterbalanced by the skill and enthusiasm of its chiefs, and their determination to achieve a success for it second to none in the world. It already stands at the head of such institutions in the United States. I witnessed many operations there—abdominal sections and plastic operations upon womb and perineum; success in every case followed. I have seen pustules as large as small intestines, adhesions so great that the bowel would tear before the adhesions would break,

and all anatomical relations obliterated in the pelvis, and yet these patients made an uninterrupted recovery." To this I may add that in the Gynecean Hospital in a series of 80 consecutive cases there was not a single death—and that in one hundred sections, done in alleys and courts in the service of the Phil. Dispensary, but a single death occurred, and that was done by an assistant. In not a single case were chemicals used. There is a disposition in some—many—eminent physicians to discredit the statistics of those general practitioners in the country who report a light mortality in their hundreds of cases. They will, I feel assured, question the testimony of Dr. Traill Green and the others cited by me, and I desire to add a few more to the above, just as reliable. Dr. Kemper of Muncie, Ind., in *Medical and Surgical Reporter*, June 22, 1889, reports 900 cases of which only two women died, one of puerperal convulsions, the other of pneumonia. He also reports that Dr. J. T. Chenoweth had 1,600 labors with only one death; Dr. N. T. Chenoweth 708, 2 deaths; Dr. A. H. Farquar 500, 2 deaths; Thomas Botkin 525, 5 deaths; Dr. J. S. Blair, 419, 2 deaths; total, 3,752 with 12 deaths; less than one death in 300 attended—and no antiseptic precautions taken. He pertinently remarks, "I have the honor of a personal acquaintance with the physicians mentioned, and I trust them as implicitly as I do physicians in lying-in hospitals. I am not aware that a country practitioner is more prone to exaggeration than his city brothers, or that falsity was indigenous to rural localities."

Dr. William F. Mitchell in "*Reporter*" of Oct. 5, 1889, gives the following testimony. That he has been in practice 24 years, has had more than 700 cases; has never administered, or caused to be administered to any woman any antiseptic remedies before or after parturition, and has never lost but one woman, and she was confined prematurely and under all the circumstances could not have expected to live. I prefer generally to present the testimony of others rather than my own, but I may say here that my 3,036 cases are confirmatory of what has already been given by the practitioners alluded to. A detailed account of them may be found in *New York Medical Journal* for May 15, 22 and 29, 1886.

Tedious as I have already been, I must go further, as this is an important subject, and get some testimony from "abroad." In the American Medical Association JOURNAL of December 28, 1889, we have Dr. Bantock's views of Listerism. Allow me to briefly state some of his facts. He says, that in 1881 only Mr. Lawson Tait and himself dared perform operations without using the rigid listerian details; but in 1889, in England, it was a rare thing to see the spray used at all; and in the Samaritan Free Hospital it has been discarded by all his colleagues with one ex-

ception, and that this is due to the superior results obtained there, since he resorted to a more rational and simple method. Speaking of ovariectomy he records it as a fact, that from April 1883, to October 1888, 3½ years, he did not lose a case in the Samaritan Free Hospital in a series of 90 cases, while during this period the deaths under the listerian system exceeded 12 per cent., and his patients recovered with less pyrexia than did those under the carbolic acid treatment. For his hands, sponges and instruments, he uses no antiseptic—only plain water—regards water that is fit for household use, suitable for the purpose of any operation, and has no hesitancy, if too warm for his hands, to cool it with cold water fresh from the tap—as, for instance, when washing out the abdominal cavity. As a covering to the wound he uses simple absorbent gauze, innocent of any germicide, and such is his belief in its harmlessness, that were it not for other considerations he would leave all his wounds exposed to the air, as he has sometimes done in amputations of the breast. He attributes the bad results which so often occur from washing the peritoneum to the employment of antiseptic material in the water, which becomes absorbed, or in some way poisons the patient. We know full well, that some persons are peculiarly sensitive to the toxic action of corrosive sublimate and that, though in a majority of cases no harm may result, yet occasionally a case is met with in which this idiosyncrasy exists. This is the only rational way of accounting for the large number of deaths due to the use of carbolic acid, and more especially to corrosive sublimate.

He therefore protests against the use of so-called germicides in flushing the peritoneum; and cannot insist too strongly on confining the surgeon to plain water as at once perfectly innocuous and thoroughly efficient.

It appears from what I have written, that there is real danger to the woman from the use of antiseptics—more danger than there is in the practice of the physicians who do not use them. As confirmatory of this, let me refer to what has happened in the Nurses' Home and Lying-in Charity Hospital at the corner of Eleventh and Cherry streets, Philadelphia; a new building erected for the special purpose, I have been told, of illustrating the value of listerian treatment. Quite recently it had to be closed, because of a virulent epidemic which occurred within its walls. Surgery was done there as well as obstetrics, and reliance was placed upon chemical solutions, and everything done was under the supervision of careful and able surgeons and gynecologists. How does this compare with the Gynecean hospital? Not at all. The success of the latter is in direct contrast with the failure of the former.

Need more be said? No. The testimony of Dr. Traill Green, known as he is everywhere as a

man of truth and honor, who has practiced midwifery for half a century, should convince every right-minded man, that there is no need that country physicians should take the precautions against germs, so strongly urged by the advocates of listerism. But Dr. Green is sustained by other good men whom I have named and thousands of others whom I could name. No, I need say no more, for if one were to rise from the dead and give like testimony, the antiseptic enthusiasts and laboratory practitioners would still discredit the testimony of the bed-side practitioner.

SOME CLINICAL EXPERIENCES WITH EUCALYPTOL.

Read by Title in the Section of Medicine and Physiology at the Forty-Sixth Annual Meeting of the American Medical Association, held at Washington, D. C., May 5, 1897.

BY I. N. BRAINERD, M.D.,
OF ALMA, MICH.

During the last ten years I have often prescribed eucalyptol in bronchial and pulmonary troubles. From this experience I have learned to put a high therapeutic value upon it in some respiratory affections, viz.: chronic bronchitis, persistent cough, chronic interstitial pneumonia, and to a less degree in tuberculosis.

The following list of cases taken from my later experience, furnishes a reasonable amount of proof of its utility:

Case 1.—Miss Bellard, aged 19. This lady called upon me in August, 1888. She complained of malaise, and some pain in the left lung. She had only a moderate cough and a limited expectoration. The temperature was 99°. Auscultation revealed a harsh and catchy respiration in the upper lobe of the left lung. A trifling dullness on percussion could be discovered in this region. I gave the girl eucalyptol, and had her visit my office every fortnight for half a year. She so far improved as to lend expectation of her recovery. Then, school beginning, she started to school. As cold weather came on, she was chilled one day in school, and developed a severe croupous pneumonia. For this she was treated by a physician in her town, but not recovering, I was called to see her. Resolution did not take place as it should, and I advised the mother that the girl would never recover from this sickness. After a few weeks she died. I believe that except for this intercurrent pneumonia, this girl would have continued to progress to a recovery from the phthisis. For a whole year she improved until she felt nearly as well and strong as ever. Then she sickened with pneumonia and died in two months.

Case 2.—Mrs. Thompson, aged 30. This lady called upon me in September, 1889. She was emaciated to a skeleton, had hectic fever, pulse about 90, cough with some expectoration, and tenderness on percussion over both lungs. The respiration was catchy and frequent. She had almost a loathing for food and scarcely strength enough to come to my office. She had been ill for many months. I put her upon eucalyptol and cod-liver oil. She rapidly improved in all respects, and ceased to visit me after about two months. I had her under observation until all the objective symptoms, including the catchy respiration, ceased. I see her occasionally. She says my prescription has made a new creature of her. She is in her usual flesh and is doing her own work.

Case 3.—Mrs. Morton, aged 26, called upon me in September, 1889. She had a miscarriage in the spring. Upon rising from this sickness she took cold and developed a cough and soreness through the lung, from which she did not recover all summer. Neither did her menses reappear. She is from a consumptive family. These things alarmed her somewhat, and she applied to me for aid. Her respirations were harsh and catchy, and her cough was quite troublesome. I gave her a prescription containing eucalyptol, and have had her under observation ever since. Her respiratory murmur is all right and she has menstruated once or twice since, and now seems to have gone into her menopause at this early age. She is in perfect health.

Case 4.—Mr. Bradford, aged 30, called upon me in December, 1889. He complained of a pain in his chest and an inability to take deep inspirations with ease. Work involving the use of the pectoral muscles, as chopping, sawing, husking corn, etc., was painful. He was growing poor and emaciating. Physical examination of the chest revealed a little dullness on percussion over the upper parts of both lungs, and a harsh catchy respiration. I put this man upon eucalyptol, and watched the case for a year and more. The patient still complains at times of lameness in the thoracic parietes, but he now has less of the catchy respiration and none of the dullness on percussion.

Case 5.—Miss McLaren, aged 16. In February, 1890, I was called to see this girl. I found her in bed. She had a temperature of 102°, a pulse of 120, respiration 30, cough and expectoration. She had la grippe a few months before and had fallen into this state. Her respirations were harsh, tubular and catchy. I treated her symptomatically and put her upon cod-liver oil at once. After about a month she began to walk out, and then I gave her eucalyptol besides her cod-liver oil. She continued to improve for some months, when I permitted her to go from my care to Ohio, where she has since remained. When I first saw her, she was much emaciated, but now she weighs 150 pounds. The cough and expectoration have ceased, and she is now perfectly well. Several children in this family have already died of consumption, and I believe this girl had incipient phthisis. The only thing lacking in the evidence is the demonstrated presence of the tubercle bacilli. I made no search for them.

Case 6.—Mrs. Pulfrey, aged 34, visited me in February, 1890. She had been failing for some months. She complained of pain in her right lung. The percussion note was normal, but the respiratory murmur was catchy. I put her upon eucalyptol and Phillip's wheat phosphates. She soon began to revive in every way. The catchy respirations have ceased and the patient has nothing to remind her of her former condition except her feeble endurance.

Case 7.—Mr. Young, aged 27. In the latter part of 1889 this man was taken sick in Boston. He was treated for bronchitis, but finally had to go into a hospital. Here he heard the visiting physician, a college professor, say to a class of medical students: "We don't get hold of this case." After a few weeks' stay in the hospital he came to Michigan to accept the hospitalities of his brother. In February, 1890, I was called in to see him. I found him greatly emaciated, with a temperature of 101°, pulse about 90, respiration 28, and a violent cough, raising about a pint a day of frothy, bloody sputa, containing mucous, pus and blood. The sputa had a rank, gangrenous odor, and separated into two layers, one of fluid and one of foam. This was enough to make a diagnosis of gangrene of the lung. Physical exploration revealed a small area of flatness at the lower point of the right lung. The rest of the lung was a little super-resonant because of its doing compensatory work. On several occasions this patient had alarming hæmorrhages. I put him upon eucalyptol and cod-liver oil. He gradually improved under this treatment, and went to Canada to live upon his

father's hospitality. Improvement continued, and now, after one year, he says he is as well as ever.

Case 8.—Mr. Brown, aged about 60, consulted me in April, 1890. He is asthmatic, had the grippe a few months before and was left with a very aggravating cough. He had consulted three or four other physicians without benefit before he came to me. I prescribed an emulsion of eucalyptol and hyoscinum, and was gratified to hear from his own lips the next morning that he had spent the best night for several months. The cough ceased at once.

Case 9.—Mr. Adams, aged about 40. This patient first came into my hands in July, 1890. He was emaciated, had a consumptive look, complained of pain in both lungs, and coughed some in the morning. He had just buried a brother from consumption. His respirations were jerky and the area of hepatic flatness was enlarged. His greatest complaining was about a circumscribed point of tenderness in the greater curve of the stomach. This I believed to be a tubercular ulcer. I put this man upon eucalyptol and bismuth mixtures, in separate bottles, and kept him under observation for a few months; but as he would not believe there was anything wrong with his lungs, and as his stomach was not bettered, he desisted from the treatment. It is to be said, however, that the respirations nearly ceased to be jerky during the latter part of the time that he remained under treatment.

Case 10.—Mr. Hayt, aged 27, applied to me in January, 1891. He had had influenza and had been left in a condition of prostration, and with pain in both lungs. I found the respirations catchy and both lungs dull, especially in their lower portions. Strange to say the temperature was normal, the pulse 64, and the respiration 16. Four years before an eminent physician told him that something was wrong with his lungs. He had been obliged to quit work, and since had done but little work. He is about five feet and eleven inches tall and weighs only 135 pounds. He has a consumptive look. I put this man upon eucalyptol and cod-liver oil. Almost full resonance has been restored to the lungs and the respirations are but slightly interrupted. There never was any expectoration. My diagnosis in this case was chronic interstitial pneumonia.

Case 11.—Miss Taylor, aged 29. I was called to see this patient in January, 1891. She had had pneumonia in Grand Rapids, Michigan, and had come to her sister's a week earlier than her physician had told her she might. She took cold upon the train. This prevented resolution. I found her with a temperature of 101° and respirations 24. The lower lobe of the left lung was flat upon percussion, and the breathing was tubular. This was some two months after the onset of her pneumonia. The expectoration was muco-purulent and abundant. I prescribed eucalyptol and cod-liver oil for her. She has steadily improved and her prospects for an ultimate recovery are fairly good.

Case 12.—Miss Reid, aged 21. On the second day of March, 1891, I was called off from the road to see this girl. About Christmas time she was taken with the influenza. She partially recovered from this, and made two attempts to go back to school. Twice she failed, and twice went home. She was treated by another physician, and discharged as cured. Three or four days later I was called, as stated at the beginning of this paragraph, and found the following conditions: Temperature 103° , pulse 130, respiration 24, free and muco-purulent expectoration, night-sweats, anorexia, and great prostration. Her respiration was catchy in both lungs, and accompanied by large and small moist râles on both sides. The percussion note was somewhat dulled on both sides, especially in the lower lobes. I believed that the girl had slid from the influenza into catarrhal pneumonia, and was likely to fall into acute military tuberculosis, and so informed the mother. I administered antipyretics and tonics, and later put her upon eucalyptol and cod-liver oil. A later examination of the

sputum revealed swarms of the bacillus tuberculosis. The case has been in my care now two months. The temperature averaged the first month about 102° , the second month 101° . The expectoration has grown much less. The respirations fell in two weeks to normal and have so remained ever since. The pulse has fallen from 130 to 96, where it stays. This may be normal for her, for the two grown sisters have the same rate of heart-beat, and they are perfectly well. Her appetite is returning and the bacilli have nearly disappeared from her sputa. The patient is still bedfast and in a precarious condition. Whatever the outcome may be, the fact is patent that the eucalyptol has done her much good. It looks as if it had averted the acute military tuberculosis, but also as if the patient were settling into a rapid phthisis, though no signs of cavities can be found, and no râles are now heard. The respiration has ceased to be catchy, and has become smooth in all the lung except in the upper lobe of the left lung, where it is harsh and tubular at this writing. It has been better here until a few days ago, when a sudden increase in the expectoration indicated the rupture of a tubercle. She has not menstruated for four months.

Case 13.—Mr. Allison, aged 20, came into my hands the first of April, 1891. This case is far gone with consumption. He had a temperature of 102° , pulse 110, and respirations 32. His expectoration was profuse and swarming with bacilli. He had night-sweats, tubular and jerky respiration in the left lung, pectoral pains, and was greatly emaciated. I had no expectation of producing any abiding change in the patient, but at once put him upon eucalyptol and cod-liver oil. In a fortnight his night sweats were stopped and the expectoration reduced one-half. The patient has been benefited by the treatment, but will die. He has had one hæmorrhage since he has been in my care.

I am not putting eucalyptol forward as a specific for consumption, for it is not; but this experience has led me, as said in my opening paragraph, to put a high therapeutic value upon eucalyptol in persistent, irritable cough, chronic bronchitis, chronic interstitial pneumonia, and to a less degree in tuberculosis. Cases 1, 12 and 13 were certainly tubercular. There can be but little doubt that case 5 was tubercular. Five is well; there is some prospect that 12 will get well; 13 will die, and 1 is already dead. Case 7 was a case of gangrene of the lung, and is recovered. Cases 2, 3, 4, 6, 9 and 10 had symptoms of incipient phthisis. All are living, and in as good or better health than they were a year ago. Case 8 was a case of irritable cough. Case 10 is a case of chronic interstitial pneumonia. Eight is cured, and 10 is much improved.

Eucalyptol is very permeating. It is eliminated by the lung, the skin and the kidneys. It can be smelled upon the breath, upon the clothes when changed, and in the urine. It is antiseptic. It has a healing effect upon bronchial epithelium and a sedative effect upon the peripheral nerves in the respiratory tract. It is because of these physiological effects that the therapeutic results are produced.

I administer it in five to ten minium doses, in emulsion, every four hours.

THE THERAPEUTIC ACTION OF TONICA WATER. WITH THE HISTORY OF TWENTY-SIX CASES WHERE IT HAS BEEN USED.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY J. W. SMALL, M.D.,
OF NEW YORK.

Water, as an agent in the treatment of disease, is a remedy which should not be too lightly estimated, as it is more or less concerned in all those changes which take place in inorganic matter, and is essential to the life and growth of all living organisms, whether animal or vegetable. When taken into the stomach it acts by its temperature, its bulk, its absorption, and as a solvent for mineral and vegetable matters which otherwise could produce no beneficial action in the animal economy. When natural spring waters are so far impregnated with foreign substances as to have a decided taste and a peculiar therapeutic action, they are classed in the Pharmacopœia as mineral waters, and are divided into five classes: the carbonated, alkaline, sulphuretted, saline (including magnesium, chalybeate and chlorinated), and silicious. The name of each of these classes suggests its peculiar impregnation; but analysis of the water of nearly all mineral springs shows a combination of the ingredients of two or more of these classes, and some, like the one I describe, the whole of them.

The Tonica mineral water is an alkaline, carbonated, sulphuretted, silicious, chalybeate water which comes from the earth in its natural purity at Highland Park, Conn., ten miles from Hartford, on the N. Y. and N. E. R. R. Its analysis, made at the Massachusetts Institute of Technology, shows it to contain to the U. S. gallon:

Sulphate of potassium	0.355 gr.
Carbonate of potassium	0.180 "
Chloride of sodium	0.215 "
Carbonate of sodium	0.345 "
Carbonate of lime	0.512 "
Carbonate of magnesia	0.234 "
Bicarbonate of iron	0.970 "
Phosphoric acid	0.051 "
Silica	0.618 "
Alumina	0.093 "
Oxide of manganese	a trace.
Sulphuretted hydrogen	a trace.
Organic and volatile matter	0.510 gr.

Making a total of 4.083 grs.

This water also contains carbonic acid gas in solution.

It will be seen from this analysis that the ingredient which enters most largely into its composition is bicarbonate of iron, of which each gallon contains 0.970 gr.; the next is silica, 0.618 gr.; and the third carbonate of lime, 0.512 gr. It also contains 0.051 gr. of phosphoric acid, a trace of oxide of manganese, sulphate and car-

bonate of potassium, and chloride and carbonate of sodium.

Therapeutic Action.—This water is not an active cathartic, but rather a mild aperient. By the stomach and bowels it is easily retained, absorbed and assimilated. It does not constipate the bowels, as do many of the waters which contain iron, and does not produce or increase acidity, being alkaline in its reaction. If taken in large quantity it will produce free catharsis at first, but its cathartic action diminishes with its use. It is at all times an active but gentle diuretic, increasing the frequency of micturition and the amount of urine excreted by the kidneys. It increases the appetite, promotes digestion, and gives a feeling of warmth, tonicity and buoyancy to the whole system. It has a slightly sulphurous, earthy but not unpleasant taste, and is readily taken by the most fastidious. But its most valuable therapeutic action is upon the blood, upon which it exerts all the beneficial effects of an iron tonic, without any of those disagreeable results which attend and follow the continued administration of iron in other forms. In all conditions of the system characterized by a depraved condition of the blood, as constitutional syphilis, scrofula, chronic albuminuria, phthisis, anemia and chlorosis, its revivifying action is soon apparent in the increasing bright, healthy color which it brings to the lips and cheeks, and its favorable action upon the appetite and digestion.

Mode of Administration.—In commencing the use of this water I have usually begun with a pint each day in divided doses taken before, during, or directly after meals, two or three times per day, and increased the amount gradually to one quart, and then diminished the quantity per day if the necessities of the case seemed to so require. In diabetic cases I usually commence with a quart or three pints and gradually diminish. If a quart is taken the first day it is usually followed by a free cathartic action of the bowels and free diuresis. But if a smaller quantity be taken at first and the amount gradually increased, only a gentle stimulation of the bowels and kidneys is perceived, and the same beneficial results are attained. In cases where wine is indicated, I give the wine with three or four times its quantity of the water, making a very pleasant and agreeable beverage. Upon my own table I always use it in this manner. It is also a very agreeable vehicle for bitter tinctures or infusions.

During the last year I have been enabled to make an extended use of this water in a large variety of chronic cases of disease, and also upon myself personally. In connection with three other physicians I have noted its use in about sixty cases. Only a few can be described in a paper like this, but I have selected twenty-six cases in which its use has been attended with the best results, and present their history herewith.

Case 1.—Chronic parenchymatous nephritis, cystitis and prostatitis. Mr. J. F. C., age 62 years. Contracted syphilis five years ago. Two years ago had syphilitic orchitis, resulting in sarcoma of right testicle, which was removed by a surgeon. When he came under my observation he was suffering from chronic parenchymatous nephritis, the amount of albumen in his urine being very large and containing fatty and hyaline casts. Also had chronic cystitis and catarrh of the bladder. Prostate gland very much enlarged and micturition impossible without the use of the catheter. Acute syphilitic orchitis of left testicle, which was enormously swollen. After the inflammatory symptoms had subsided I gave him Tonica water, directing him to drink an ordinary quart bottle full each day. At first it produced free catharsis and increased considerably the amount of urine excreted by the kidneys. At the end of one month marked improvement was visible, with albumen reduced one-half. At the end of two months albumen about one-fourth, and after three months one-eighth the original amount. Appetite and digestion improved from the first, so that instead of being confined to the house, he is now performing all the duties of an active business life. This patient had been unable to take any of the ordinary forms of iron on account of their constipating and irritating effects upon the bowels.

Case 2 —Obesity, gout and rheumatism. Mr. E. F., a clerk and a man of sedentary and indolent habits, age 50. Height 5 ft. 5 in., weight at commencement of treatment 220 lbs. Chest contained a large amount of fat, which materially weakened the action of the heart. Considerable dyspnoea upon slight exertion, as upon going up a long flight of stairs. Specific gravity of urine 1010, and contained considerable albumen. After some preliminary treatment, I gave Tonica water in doses of one pint each day, with meals, gradually increasing the amount to one quart each day and keeping it at the latter amount for one month, then gradually decreasing. At the end of one month all symptoms of gout and rheumatism were gone and albumen had disappeared from his urine. Weight reduced 10 lbs. Appetite and digestion were much improved and abnormal heart symptoms had disappeared. At the end of three months had lost 10 lbs. more in weight. It is now five months since I first ordered Tonica for this patient, and he has lost about 25 lbs. of flesh, while his general condition has improved very much. The only change I made in his diet was to order him to abstain from saccharine and amy-laceous foods, tea and coffee, partake of but one course at a meal, and have plenty of exercise in the open air.

Case 3.—Obesity and membranous dysmenorrhoea. Mrs. E. B., housewife, age 45, height 5 ft. 4 in., weight 226 lbs. Heart sounds weak and

somewhat irregular, and great dyspnoea upon active exertion. Symptoms of fatty degeneration of muscular tissue of heart. Had suffered for two years from membranous dysmenorrhoea, the pain each month being intense and continuing from two to three days, and passage of membrane followed by very excessive menstrual flow. Gave a pint of Tonica each day, with injections into the uterus of sol. ac. carb. and tr. iodine once a week during the intermenstrual period, commencing first injection two days after cessation of menses. Regulated diet and exercise as in the preceding case. The result, after three months' treatment, has been a loss of 20 lbs. in weight, with complete cure of dysmenorrhoea. Condition of blood and general system very much improved.

Case 4.—Anemia, chronic bronchitis and asthma. Mrs. J. W., age 42, housekeeper, has suffered several years from chronic catarrh of nose and throat, chronic bronchitis, anemia and asthma. Applied local treatment to nose and throat and gave one pint Tonica each day for three months. At the end of that time the condition of this patient was very much better; catarrh and bronchitis wholly gone and no more attacks of asthma. Improvement in quality of blood very noticeable. I had previously given her iron in the form of a tincture and also a syrup of the albuminate, and combined with quinine and strychnine, but the effects were not lasting, as these seem to be.

Case 5.—Diabetes mellitus. Mr. E. R., age 40, engineer, had suffered for two years with gradual loss of weight, intense thirst and increased appetite. Former weight 180 lbs.; weight at beginning of treatment with Tonica 145 lbs. Amount of sugar in urine 13 grs. to oz. Specific gravity of urine 1042. I had previously limited this patient to a strict anti-diabetic diet and tried all the usual diabetic remedies, with the effect of reducing the specific gravity of the urine to 1037 and the amount of sugar somewhat, but not materially arresting the disease. In December, 1890, I commenced giving him Tonica water, giving him three pints each day and no other liquid, but continuing the anti-diabetic diet. At the end of January, 1891, I found the amount of sugar in the urine reduced to 5 grs. per oz. and specific gravity 1031, with marked diminution of thirst and appetite. March 3, I found the amount of sugar reduced to 3 grs. per oz., specific gravity 1029, with a gain in flesh of 10 lbs. At the present time (April 20, 1891), there is only a trace of sugar in the urine, its specific gravity is reduced to 1021; weight of patient is increased to 165 lbs.

Case 6.—Hypertrophy and valvular lesions of heart. Mr. R. W., 55 years old, shoe manufacturer, has taken a pint of Tonica each day for two months, with general improvement of blood and circulation, and disappearance of cardiac murmurs.

Case 7.—Anæmia and neurasthenia following "la grippe." Mr. J. R., artist, age 42, had a very severe attack of epidemic influenza, which was followed by general nervous weakness and anæmia. Gave one pint Tonica each day for two months. At the end of that time I find patient's general condition greatly improved, appetite and digestion good, and no remains of the malady apparent.

Case 8.—Anæmia and intercostal neuralgia. Mrs. E. F. J., age 43. Three years ago had two severe hæmorrhages from left lung. Has suffered since from anæmia with periodical attacks of intercostal neuralgia, these attacks occurring at intervals of a month or six weeks. Gave Tonica water, a pint each day for three months, with the effect of materially increasing the red corpuscles of the blood and improving the appetite and digestion. It has been now five months since I first gave this treatment, and for the last three months she has had no neuralgia.

Case 9.—Amenorrhœa, chlorosis. Emma B., age 16, had never menstruated, but had attacks of periodical headaches, recurring each month; is anæmic and poorly developed, skin yellow, complains of weakness and difficulty of breathing upon slight exertion, and shows symptoms of hypertrophy of heart. Gave one pint Tonica each day for three months, and ordered her to take plenty of exercise in the open air, with good nourishing diet, which soon established the menstrual flow, built up the blood and regulated the action of the heart and circulation.

Case 10.—Chronic dyspepsia, chronic constipation, acute rheumatism. Mrs. S. L., age 56, housewife, has had acid dyspepsia with troublesome flatulency for years, with occasional attacks of acute rheumatism. Is pale, anæmic, poorly nourished, and bowels constipated. Gave Tonica each day for three months, with disappearance of dyspeptic and rheumatic symptoms and general improvement of blood and digestion. Action of bowels, after once established, remains good.

In a paper written by R. M. Griswold, M.D., of Portland, Conn., a physician who lives in the vicinity of the springs and has had large opportunities for testing the medicinal qualities of the water, and entitled, "The Medicinal Use of Highland Tonica Water in various diseases, but especially in Dyspepsia and Diabetes Mellitus," I find a very interesting history of its use in thirteen cases, of which five were cases of chronic dyspepsia complicated with malaria and anæmia, one of acute malarial fever with acute gastritis, one of chronic cystitis, one of chronic eczema in a child five years old, and five cases of diabetes mellitus. Dr. Griswold claims such good results from the use of this water in these cases, and the history of the five cases of diabetes mellitus is so very interesting, that with his permission I have copied them from his valuable paper. Dr. Griswold says:

I will now notice five cases of diabetes mellitus treated with Tonica water after all other means of treatment had failed. In three of these cases the disease had not been even arrested by treatment. In the other two it had at times apparently been arrested, but there was no permanent improvement. Three of them, before coming under my observation, had been limited to the most approved anti-diabetic diet; the others had not been so strictly dieted. In all five cases the diagnosis was not to be doubted, as sugar in large amount was found in the urine repeatedly, both by physicians who had previously treated them, by myself, and by two experts in urinary analysis. The treatment in all these cases was similar, and consisted first, of a strictly anti-diabetic diet as follows: plain soups, oysters, clams, beef, poultry, bacon and ham, all kinds of vegetables except potatoes, turnips, carrots, parsnips, peas, beans and tomatoes. Cheese, butter, unsweetened custards, buttermilk, dry and sour wines, as claret and sherry, acid fruits, as lemons, currants, etc. Tea, cream, coffee without sugar, gluten bread from flour made by Farwell & Rhines, of Watertown, N. Y. In each case everything of a saccharine or farinaceous nature was carefully excluded, also all malt or spirituous liquors except the wines mentioned, and no water other than Tonica allowed. But it should be remembered that in three of these cases the diet had before been as carefully regulated, but with no apparent benefit.

Case 1.—Quarryman, 35 years old, Swede. Weighed when in health 190 lbs., present weight 130 lbs. Has been able to do no work for five months. Passes from 4 to 6 quarts of urine per day. Excessive thirst, markedly increased appetite. Pains in back, arms and legs, constant headache. Sugar 14 grs. to the oz., spec. gr. 1042. This case came under my observation in July, 1888. He was put upon red sulph. arsenic gr. 1-50 after meals, and limited to three pints of Tonica water per day for drink. At the end of one month a second examination of the urine showed sugar 5 grs. to the oz., sp. gr. 1032. In three months the amount of sugar was the same and the sp. gr. had not decreased, but there was a marked diminution of thirst and desire for food, a slight gain in flesh, and improvement in the general condition. In five months the sugar had decreased to 2 grs. to the oz. and the sp. gr. to 1028, and there was a gain of 5 lbs. in flesh. From this time on the improvement was steady, and the gain in weight correspondingly so, and in April of the next year he resumed his work, when no sugar could be detected in his urine, although the sp. gr. still was above normal—1025. He had gained 25 lbs. in flesh and was apparently well. He remained under my observation until the autumn of 1890, when he returned to Sweden, at that time weighing 170 lbs.

Case 2. in nearly every respect similar to Case 1, came under observation in September, 1888. Previous weight when in health 160 lbs., present weight 128 lbs. Amount of sugar in urine not noted, sp. gr. 1042. Treatment the same as in previous case. At the end of six months, sugar 3 grs. to the oz., sp. gr. 1031, gain in flesh 8 lbs. August, 1889, sugar $\frac{1}{2}$ gr., sp. gr. 1028, gain in weight 13 lbs. Since that time I have examined the urine at intervals of about three months. At each examination traces of sugar are found, and the sp. gr. remains a little above normal, 1022 to 1026, but he feels well and maintains his present weight of about 150 lbs.

Case 3.—Quarryman, Swede, age 52. Previous weight 180 lbs., present weight 140 lbs. Not able to work for seven months. Came under observation January, 1890. Treatment as in previous cases. At time of first observation was passing 30 ozs. of urine per day. Sugar 20 grs. per oz., sp. gr. 1041. At last observation, January, 1891, he had gained 24 lbs. in flesh, sugar 3 grs. to oz., sp. gr. 1028. He is working every day and feels well.

Case 4.—Banker, aged 54. Had diabetes for six years. First seen in February, 1890. Weight seven years ago 192 lbs., present weight 142 lbs. No note of amount of sugar, sp. gr. 1038. Treatment as in previous cases. One

year from date, weight 165 lbs., sugar none, sp. gr. 1021.

Case 5.—Merchant, age 47. Disease first diagnosed two years before. Came under observation March, 1890. Weight 124 lbs., previous weight 174 lbs. Sugar 14 grs. to oz., sp. gr. 1037. June, 1890, sugar 11 grs. to oz., sp. gr. 1031. September, 1890, sugar 4 grs. to oz., sp. gr. 1025, gain in weight 24 lbs.

Cases 3, 4 and 5 are still under observation. They are now, and have been for more than a year, using from one to three pints of Tonica water per day. In each case the arsenic was discontinued in from three to six months from the commencement of its use. The anti-diabetic diet is continued, but in each case I attribute the much more than usually favorable results to the Tonica water, as in each, but more especially in three of the cases, the same treatment had been faithfully followed for periods of from six months to six years, but without the Tonica, and in none of them had there been any improvement, and in all but two the disease was progressing rapidly to an apparently fatal termination.

My friend, Dr. James Tibbetts, of Hyde Park, Mass., has sent me the history of two cases of gout and rheumatism and one of chronic cystitis, in which he has used Tonica water very successfully, but for the sake of brevity I will omit the details.

At this date it does not require any argument to convince the medical profession of the utility and value of iron as a nutrient tonic for the blood. Of its peculiar action in anæmia Stillé says: "The red blood discs appear to be the organ to which iron is especially directed, and by which the activity of animal life as well as of organic life is sustained at the highest point. These bodies it is which by contact with the inspired air in the lungs attract and become impregnated with oxygen, the essential agent in all the compositions and decompositions which sustain life in the tissues, acquiring thereby the scarlet hue of arterial blood, which they lose with their oxygen in their passage through the tissues to the venous system. Thus it would appear that the activity of nutrition, and probably also of calorification, is dependent upon the iron in the blood; and that when the red blood discs which contain it are most abundant, all of the functions of the economy attain their highest degree of activity and vigor." And in his theory of the operation of iron he says: "Iron, on entering the blood-vessels, combines immediately with the discs which have not yet acquired or have lost more or less of their ferruginous element. It enters the blood as a chloride, is decomposed, combines with the discs as a carbonate of the protoxide of iron, and in the lungs gives up carbonic acid and absorbs oxygen, and is thereby converted into a peroxide. The white corpuscles are destitute of iron, but when once saturated with it neither they nor the red corpuscles can receive any more."

But in order to obtain in the system the effects of iron as a specific nutrient tonic it is necessary, in persons of a bilious temperament or those suffering from stomach or intestinal indigestion, or torpidity of the kidneys, to gently stimulate these organs, thereby increasing their activity and their

powers of absorption, assimilation and excretion, as, without a healthy action of these organs, most preparations of iron prove inert and act as a clog upon the system; and also to present the iron to the system in an exceedingly soluble condition, so that it may be easily absorbed and assimilated by the stomach and bowels.

Judging from my own experience with this water, it meets both these requirements more perfectly than any other ferruginous preparation which I have ever found, and for that reason is a most valuable adjuvant to other remedies in the treatment of:

1. Anæmia, amenorrhœa and chlorosis.
2. All menstrual derangements attended with periodical hæmorrhages.
3. In organic disease of the heart.
4. In nervous affections complicated with anæmia, as neuralgia, chorea, etc.
5. In depraved conditions of the blood, as constitutional syphilis, chronic albuminuria, and scrofula with anæmia.
6. In phthisis, chronic bronchitis and chronic catarrh.
7. As an alterative and nutrient tonic after eruptive fevers, as measles, scarlet fever, and in the anæmia following epidemic influenza.
8. In chronic malarial poisoning.
9. In errors of malassimilation and malnutrition, as diabetes mellitus, obesity, etc.
10. In chronic constipation complicated with acid dyspepsia and anæmia.

A REPORT OF THE EXPERIMENTS WITH TUBERCULIN AT THE GOOD SAMARITAN HOSPITAL IN CINCINNATI.

BY S. P. KRAMER, M.D.,
OF CINCINNATI, O.

The following is a report of the experiments with tuberculin in the treatment of tuberculosis, carried on in conjunction with Prof. Whitaker at the Good Samaritan Hospital in Cincinnati.

The work was begun on January 14th and has been continued up to the present time. Fifteen weeks' experience with the remedy is but a short time during which to gather material that shall give us definite results. This is offered as the result of observation during that time, to be taken for what it is worth.

I shall report only those cases in which the remedy was used systematically as treatment, leaving out the cases in which it was used for diagnostic purposes.

The injection of tuberculin, and nutritious diet and alcohol, constituted the only treatment used.

In all, then, there are twenty-nine cases. Two

of these were cases of tuberculosis of the lymphatic glands primarily. As they present many points of interest, I shall dwell on them somewhat in detail.

The first is the case of a young man, age 24. Since childhood he had suffered from repeated attacks of quinsy, and chronic inflammation of the tonsils and pharynx. Three years ago he began to be troubled with enlargement of the cervical lymphatics. This continued and led to the formation of three sinuses, which, when he was admitted, were discharging a slight quantity of thin serous fluid. Eighteen months ago he began to notice cough, with mucous expectoration. This was followed by night-sweats, hæmoptysis and loss of weight.

Examination revealed, besides the general enlargement of the cervical lymphatics, dulness on percussion, with rude inspiration and prolonged expiration over the right apex. Tubercle bacilli was found in the sputum.

The result here has been very satisfactory. The glands have diminished in size, cough and expectoration have disappeared, the patient has gained ten pounds in weight and the æmæmia has been greatly ameliorated.

The other case is one of four years duration. The trouble began in the lymphatics of the right neck, extended to the left, involving the entire chain. About eighteen months ago there occurred an enlargement just beneath the left clavicle; it suppurated, was opened, and the sinus formed still remains. This sinus is found to communicate with a small cavity in the left apex. On forced expiration air escapes from the opening. With the exception of the left apex the lungs seem to be free from disease. The pulmonary symptoms began after the disease in the glands.

The progress in this case has been slow but appreciable. The glands have diminished in size. The cavity is diminishing in extent, the sides seemingly granulating and filling it up. After every dose of tuberculin the discharge from the sinus is increased in amount, in cellular elements and bacilli.

Both these cases illustrate the infection of the lungs and pulmonary lymphatics, from the lymphatics higher up. In the one the infection probably took place in the tonsils or pharynx.

The importance of attacking such cases in their incipency is self evident.

The remaining twenty-seven are cases of pulmonary disease. Of these, 17 were in the advanced stages, of the kind in which but little improvement is to be hoped for. Four of these have died; but neither clinically nor post-mortem was there any sign of an acute exacerbation, or that the treatment had hastened the end.

Ten have remained unchanged. That is, the natural course of the disease has not been influenced to any permanent degree.

Three of these cases show marked improvement. They have gained in weight, and strength. The cough and expectoration have diminished. Night-sweats have ceased and their general health has been improved. This is not due to the psychic effect. Because, as it has been our experience that all the cases do well for the first few weeks, cases have only been counted as improved in which the improvement has lasted beyond the first few weeks.

The other ten cases are cases in the first stage. That is, before signs of breaking down can be observed. Three of these remain unchanged. In these cases while there are no signs of cavities, yet the presence of considerable hectic, and chills, denote that the pus micrococci are responsible for a considerable part of the symptoms, and against these the fluid has no effect.

The remaining seven have all improved. They all show a marked diminution in cough, expectoration, and night-sweats. The dulness of percussion still remains, but the bronchial catarrh has for the most part disappeared. The bacilli in the sputum have become less. They have gained in weight and strength.

Three of these cases have improved to a marked degree, and were it not for the fact that there still may be found an occasional bacillus by the Biedert method, they might be called cured.

We must, however, be very careful in speaking of the cure of tuberculosis. This is not accomplished in a few weeks, and relapses are the rule.

Thus it will be seen that the surgical and incipient cases do the best. Yet there are exceptions to the rule, and if we do our patients no harm, it is but just to give them the benefit of the doubt.

In regard to the diagnostic value of the remedy: This property of the fluid has been called in question of late. In judging of this point we must bear in mind that only a local reaction, a reaction at the seat of the disease, is of diagnostic value. A mere rise of temperature is of no value at all.

We must take a decided stand against the opinion that the use of the fluid is not justifiable for diagnostic purposes. On the contrary, as Prof. Koch has said, in the future the physician who fails to use it and thus neglects to give his patients the benefit of an early diagnosis will be guilty of gross negligence to say the least. One of the greatest sources of good will spring from this property of the fluid. For by its use alone will we be able to discover the very incipient stages of tubercular disease and then treat them to advantage.

In the use of the fluid we have observed certain contra indications and phenomena that are worthy of notice.

First, in regard to technique.

The Koch syringe has been adhered to as very

easily kept clean, and on account of the accuracy with which the dosage is obtained.

Second, as to dosage.

As a rule we begin 1 mg. and repeat this as often as it causes any rise of temperature whatever. The dose is then slowly increased 1 mg. at a time, avoiding all reaction. This plan has proven to be the wisest. The febrile reactions are not at all necessary, and they cannot but diminish the patient's strength. At first, before we saw the wisdom of this method, we had very severe reactions and the progress was very materially hindered.

By following the plan advised above, the patients by a careful and nutritious diet may be made to gain in weight from the beginning, which they will not do if severe reactions are produced. Indeed those cases have done the best in which there were scarcely any rise of temperature produced during the entire treatment.

The fluid seems to be contra-indicated in cases with intestinal complications. Clinically these cases do poorly, the diarrhoea is increased and the patients diminish in weight and vitality. Post-mortem examinations reveal that perforation is often rendered dangerously imminent, although few such accidents are on record.

In cases in which there is a considerable hectic, accompanied with chills, giving evidence that the complication is due to a septic process caused by the presence of the pus micrococci, the remedy does little if any good.

This, however, does not include all cases with an evening rise. Thus, I have repeatedly seen in patients where the evening temperature reached 101-102 before treatment, after a few weeks treatment the hectic disappears, there being no fever except that caused by the injection. Probably in these cases the fever was caused by the tubercular process and not by the entrance of the micrococci.

Hæmoptysis occurring during the treatment seems to indicate the remission of the remedy for a time. When we consider the histological changes caused by the fluid, the force of not producing an acute congestion in these cases strikes us at once. This complication occurred in one of our patients. The treatment was remitted for two weeks and the hæmorrhage not recurring, the treatment was resumed. There was no further hæmorrhage and the progress of the case is favorable.

Perhaps it would be wise in all cases to remit the treatment for a week at a time occasionally, sending the patient from the hospital. We have noticed the efficacy of this in a number of cases.

The following is a case showing the extreme irregularity of the action of the remedy. The patient is a woman of thirty, pulmonary tuberculosis, primary stage, at the left apex.

On January 25, the first injection of 2 mg. was

given; no reaction. January 27, 5 mg.; marked local reaction, cough, dyspnoea, chill, temperature 102 $\frac{1}{2}$.

January 29, 5 mg.; local reaction slight, temperature 100 $\frac{1}{2}$.

After this the dosage was gradually increased to 4 $\frac{1}{2}$ cg. on February 15. At no time during this period was there any reaction. February 18, 6 cg. were given and there followed a very sharp reaction indeed, marked dyspnoea, cough, nausea, and vomiting; temperature 104. The next day the temperature had fallen to the normal, expectoration being greatly increased and bacilli more numerous. February 21, 5 cg.; no reaction. February 23, 6 cg.; no reaction.

As seen from the above report we cannot be too careful in increasing the dose even though the reactions be not present.

And now a few remarks as to the opinion in the minds of the profession and laity as to the efficacy of the treatment.

The pendulum has swung to the other side and unlike the mechanical pendulum it has perhaps gone further to the left than to the right. But like its mathematical brother it will swing back and continue to oscillate until it comes to its true point, to the calm and quiet of the middle line. Let me seriously warn against throwing the remedy away. It is too early, we have not had sufficient time to pass final judgment. The most careful observation and study of years will alone give us that.

That the remedy is a specific against tubercular disease no one who has seen its action in a case of lupus will doubt. In so far as regards the science of medicine, the specific character of the remedy may be considered a settled fact. The cure of one case of lupus is sufficient evidence for this.

Everything else, the determination of suitable cases, surgical aid, prevention of accident, are details to be settled by the physician's art. As Professor Koch said, "In all cases, the art of the physician must be allowed free scope in that we shall carefully individualize, and all means known to the physician or surgeon shall be brought to the aid of the remedy."

This is not to be done in a day. We have but to remember our experience with mercury and iodine as specifics against lues. These remedies have been known to medicine for centuries, but it is only within the present generation that we have learned the proper use of them. Perhaps the full benefits of the remedy will be scarcely felt by the present generation.

To continue the above analogy: May it not occur that the history of tuberculosis in the course of a century will undergo the same change? That the disease will lose much of its virulence and that the advanced cases with such extreme destruction of tissue will become a rare occurrence?

This is what we must look forward to and aid with all our powers as physicians.

The objection has been raised that the treatment has in some cases caused a spreading of the disease and acute tuberculosis. Liebmman has stated that he has found tubercle bacilli in the blood of patients treated with the fluid. These examinations have been repeated by Professors Ewale and Guttman in a number of cases, and no bacilli found. A careful examination of Lippmann's slides have revealed the fact that the glasses used contained traces of old sputum. They had not been sufficiently cleaned.

To the charge that the fluid contained tubercle bacilli, and that we were in danger of giving our patients acute tuberculosis by its use, Dr. Libbertz has replied that there were a few tubercle bacilli in the preparation, but that they had been killed by repeated boiling.

Inoculation experiments have confirmed this statement.

The injection of 2 cc. under the skin of the speaker gave rise to the following symptoms:

Four hours after the injection of 2 cc. under the skin of the left forearm, I experienced severe headache, backache, malaise and nausea. The temperature rose to 99.8, pulse full, 108. The rate of breathing was also increased to about 30. These symptoms continued for four hours, when the thermometer registered 98. That night I slept comfortably; the following morning the arm was sore and tender and swollen. There developed a lymphangitis which lasted for 48 hours. During this time the thermometer reached 102. I suffered from severe headache and malaise. The trouble subsided, however, leaving absolutely no symptoms whatsoever. The effect of the fluid had passed off after twelve hours. The subsequent lymphangitis I attribute to the fact that the syringe used was not sterilized, and secondly that the forearm was not a well chosen place for the injection.

I have learned these points from this experience:

1. To adhere to the Koch syringe, rather than the ordinary hypodermic which I had used in my own case.

2. To appreciate the wisdom of Koch's recommendation to use the interscapular region as the site of the injection.

3. That the injection of tuberculin does not produce any deleterious effects in healthy people. I would like to state that mine was the only case in my experience in which there occurred any trouble at the site of the injection.

Perhaps in a number of cases where acute tuberculosis was found, the remedy had lighted up a number of latent tubercular points, rather than that they had been produced by a scattering of the bacilli from the older lesions. Further study and observation may lead us to avoid such cases

in the future. Above all, we are to remember the work and instruction of Professor Koch, and that the chapter on the treatment of tuberculosis is not a closed one by any means.

ON THE CHARACTER OF THE EVIDENCE AS TO THE INJURIOUSNESS OF ARSENIC AS A DOMESTIC POISON.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May 5-8, 1891.

BY JAMES J. PUTNAM, M.D.,
OF BOSTON, MASS.

This communication is an attempt to place in as clear a light as possible, the credibility of the evidence that symptoms of arsenical poison may occur as a result of the ordinary exposures, such as are met with in domestic or civic life.

I shall not try to indicate the frequency with which such poisoning occurs, but only the possibility that it may occur; for the question as to frequency can only be satisfactorily answered when a large body of facts have been accumulated, especially those relating to the obscurer forms of chronic poisoning. The first thing to be done, would seem to be to disprove the opinion which has so much weight, even among those who would otherwise credit the evidence of domestic poisoning, that not enough arsenic could possibly reach the tissues to cause serious effects.

For this purpose I shall show: first, that urine analyses indicate beyond cavil that the exposures of civic life are a very frequent cause of arsenical contamination; next, that our knowledge of the laws of elimination indicates that the excretion of the small quantities which pass off with the urine day after day for months and years, in the case of many persons in the community, implies the presence by accumulation of much larger quantities in the tissues. The dangers attending domestic exposure might, in fact, be fairly compared with the dangers attending the medical use of arsenic, and I shall show that these dangers are usually underestimated. If in the cases of domestic exposure, the single doses are smaller, yet on the other hand, the period of exposure is much greater; the patient is not under the watchful care of a physician; the character of the arsenical compounds sometimes brings special dangers; the place of absorption is often the lungs and not the stomach; and there is some reason to believe, that there are certain very chronic and exceptional forms of poisoning, following the repeated use of minute doses, with which we are not yet thoroughly familiar, and which, in the absence of signs of acute poisoning, are likely to be overlooked.

The dangers attending the medicinal use of arsenic have been underestimated by physicians, partly because of their relative infrequency; partly because the first indications of them (œdema of the face, irritation of the mucous membranes, etc.,) are so familiar, and usually so amenable to treatment, that they are hardly looked upon for what they are, namely, imperative signs that symptoms of more serious import are not far off (as shown by the experiments of Vaudrey).

Again, the effects of habituation, the storage of the arsenic in a temporarily innocuous form (albuminoid compounds of arsenic; Dogiel, International Congress, Copenhagen, 1886), and constitutional indifference to the poison confer as a rule such complete immunity, that those not so fully protected by nature, or with whom the protection ceases after a time, for one or another cause, stand in all the greater danger on account of the false impression of security which is spread abroad, and which makes physicians impatient of studying the obscurer indications of poisoning.

The most important collateral facts bearing on the question of the quantity of arsenic absorbed in domestic poisoning cases, are, as above stated, those obtained by urine analyses, of which large numbers have been made by the chemists associated with Harvard University.¹

To speak of only the most recent and conclusive series of experiments, Dr. C. P. Worcester, of Harvard University, a skilled chemist and with large experience in this particular analysis, has examined for my brother and myself one hundred and fifty urines, taken from patients most of whom presented certain obscure symptoms, but not such as would have justified the diagnosis of arsenical poisoning, and has found arsenic in more than thirty per cent., in quantities varying from a trace to upwards of .05 mg. to the litre.

About half of these patients were private, while the other half were from the clinic for Diseases of the Nervous System of the Massachusetts General Hospital, and many of the latter were chosen as presenting no arsenical symptoms.

These results conclusively show: *first*, that the community is exposed to arsenical contamination on a very large scale, so that the occasional occurrence of poisoning, due perhaps to special susceptibility, unusual exposure, failure of elimination, etc., need occasion no surprise, and ought to be carefully sought for by every physician; *second*, that the mere finding of arsenic in the urine in a doubtful case does not prove that the symptoms were of arsenical origin.

What does the elimination of these small quantities indicate as to the amount present in the tissues?

It was formerly believed that arsenic differed from lead in being eliminated rapidly and in not uniting with the tissues. Both of these opinions are now disproved. Arsenic has been found in the liver bones (Gibb) six months after the cessation of a course of arsenical treatment (which, by the way, led to the patient's death); it has been found in the urine even nine months after the apparent removal of the patients from exposure in "domestic" cases; and Prof. E. S. Wood has recently found traces in the urine as long as three months after cessation of a short course of arsenical treatment (these experiments are not yet concluded, and I quote a verbal statement only as relating to one or two cases).

Arsenic does then, in some cases at least, tend to accumulate, and the daily elimination of .03 to .3 mg. (gr. $\frac{1}{1000}$ to $\frac{1}{3000}$), computed by supposing two litres of urine to be excreted daily, and to contain two-thirds of the whole elimination of the arsenic), must indicate the presence in the tissues of quantities quite large enough to cause poisoning, provided it should become active all at once, or provided that for any reason the elimination should be checked.

That the effects of arsenic—like those of lead, and phosphorus—are in a measure dependent upon the action of the stored up poison, is shown by the fact that the symptoms of medicinal poisoning often appear only when a given dose has been taken for some time, after which the patient is apt to show an increased sensitiveness (though this is not regularly the case). In the case of lead it is a matter of common knowledge that sudden outbreaks may occur after lead drinking water has been used for a long time, as well as among the workers in lead mines. In the case of arsenic, it is quite common to find the paralytic symptoms breaking out days or weeks after a single large dose or repeated smaller doses.

Is the use of arsenic in maximum therapeutic doses unattended with danger?

This is by no means the case, although the doses used are far less, at their largest, than those taken by the Styrian peasants with impunity.

Habituation to, large doses may by care be brought about, but in the attempt to do this the lesser symptoms of poisoning are frequently excited, and the graver symptoms occasionally.

No doubt there are but few physicians who have had these graver symptoms in their own practice, but this is certainly because they have taken pains to avoid them, for the experiments of Vaudrey upon himself and others, have shown that by increasing a little further the doses which excite the lighter symptoms, serious prostration and local symptoms regularly follow. A few years ago I collected a number of the severer cases of medicinal poisoning,² and I give here a few of them in brief outline. The cases of

¹ Especially Profs. E. S. Wood, C. Harrington, W. B. Hills, C. R. Sanger, (now of Annapolis Naval Academy), H. B. Hill, C. P. Worcester, A. M. Corney.

² Boston Medical and Surgical Journal, March 7 1886.

paralysis are especially noteworthy because these are now known to occur frequently in arsenical poisoning of a certain grade, and, as we shall see, they reappear among the cases of "domestic" poisoning.

1. Gaillard: Typical arsenical paralysis following full doses of Fowler's solution, increased to the limits of tolerance and administered for five weeks.

2. Canada Med. and Surg. Journ., 1886-1887, v. 15, p. 716. Arsenical paralysis, ending fatally, after large doses ($\mathfrak{M}\text{xx}$ to xxx) of Fowler's solution. The autopsy showed the presence of neuritis.

3. Hastings: Arsenical paralysis with neuritic symptoms, following $\mathfrak{M}\text{ij}$ to v of Fowler's solution continued for some weeks.

4. Gibb: Long course of arsenical treatment ending in neuritis, causing disorders of sensibility, pain, and paralysis. The patient died six months later, having taken no arsenic in the interval, and traces of arsenic were found in the liver and bones.

5. Dublin Quarterly Jr., v. 36, p. 474. $\mathfrak{M}\text{ij}$ of Fowler's solution, were taken daily for ten or twelve months, at the end of which time "symptoms of acute arsenical poisoning" came on, ending rapidly in death.

6. C. L. Dana: Arsenical paresis with ataxia. $\mathfrak{M}\text{xxx}$ of Fowler's solution three times daily, in spite of the fact that the dose had been gradually increased.

7. Hooper: $\mathfrak{M}\text{v}$ of Fowler's solution were given three times daily for eight months. Toward the end of this time the following symptoms came on and increased, ending three months later in death: conjunctivitis with oedema, tachycardia, tremor, excessive and progressive prostration, insomnia, irritation of the trachea and larynx.

8. Jones: $\mathfrak{M}\text{v}$ to xv of liquor arsenicalis given three times daily; at the end of a month, intense gastro-intestinal irritation, scanty urine, trophic changes in the legs, sensory and motor paresis.

9. Burne, cited by Taylor: Gr. $\frac{1}{20}$ of arsenious acid daily for four days; then, inflammation of the stomach, delirium, debility and exhaustion.

10. Taylor: Gr. $\frac{1}{30}$ of arsenious acid taken twice daily for seven days, then, "sickness," irritation of the skin, and eczema over the whole body.

11. Taylor: $\mathfrak{M}\text{x}$ of liquor arsenicalis chloridi (said to be a very poisonous preparation) taken three times in the course of twenty-four hours; then, constriction in the throat, pain and irritation of the stomach and bowels, tingling and

numbness of the hands and feet, with paresis; extreme depression; gradual recovery.

12. Personal Observation: $\mathfrak{M}\text{iv}$ to v of Fowler's solution taken three times daily for six weeks; then there came on extreme prostration, pains of severe character in the extremities, widespread muscular atrophy, and paralysis, so severe that the patient was helpless for many months. During the worst of his illness he inhabited a room with a highly arsenical paper. I consider this case as especially important because it was possible to eliminate, as satisfactorily as this can ever be done, all the other causes of neuritis. The patient was a gentleman in good circumstances, not syphilitic, not tuberculous, with no lead in the urine. He had had no acute diseases, no grippe, no anæmia; and the symptoms came on during the pleasant weather of June.

Of course this handful of cases does not prove that arsenical paralysis is common from medicinal doses, but only that it occurs.

There are, however, three obvious reasons why we do not have more such reports: 1. The watchfulness of physicians; 2. The failure to recognize the nature of the cases seen; 3. Unwillingness to report unfavorable results.

Imbert Goubeyre says that many cases of paralysis occurred in the last century when arsenic was used so freely in the treatment of intermittent fever. He does not give references, however, and I have not yet fully studied this point.

Dr. Winkler, of Altenburg, writing in 1811, quaintly reports a case of paralysis of the legs occurring in the practice of a colleague, after an arsenical treatment of intermittent, but "does not believe" it was due to arsenic, and is obviously wholly unfamiliar with the characteristics of arsenical paralysis, now so well known.

This would be a suitable place to introduce, by way of comparison, the recorded cases of paralysis due to domestic exposures.

I have not, however, undertaken, in this paper, to bring forward the clinical evidence indicating the frequency with which arsenical symptoms occur, but only such as would present as strongly as possible the fact that they do occur.

For this reason I shall confine myself to my own experience in speaking of arsenical paralysis (and other signs of neuritis). I will note, however, that a number of such cases are on record. Alexander, of Breslau,⁴ for example, in a recent pathological monograph on arsenical paralysis (1889), considers nine cases to have been of "domestic" origin, out of fifty-eight which he selected from a much larger number of general analysis.

The cases which I have seen myself, several in number, were mainly light cases, as might be expected, and for that reason less conclusive. I

³ It has been abundantly shown by the history of acute arsenical poisoning that symptoms once inaugurated may continue and increase, though no more arsenic is taken. The paralysis, for example, often fails to appear for days or weeks, and even months.

⁴ Boston Medical and Surgical Journal, March 7, 1889.

therefore report but two, one of which has been published.⁵ (Atwood.) This is the case of a lady 43 years old, and of naturally good health, except that for a year or two she had suffered from severe colds and from "indigestion."

The new symptoms began about six weeks after her return from a vacation, at which time she had moved into new rooms, which were afterwards found to be papered with a highly arsenical paper.

The symptoms consisted, first, in severe abdominal neuralgia, recurring every morning and passing away in the afternoon, and not attended with signs of indigestion. This continued for nine months, but before the end of this period she began to lose sleep and appetite, and to notice tingling sensations in the fingers, lips, tongue and feet. The hands and wrists became sensitive on pressure, and whenever she was recumbent the arms used to "go to sleep." Writing, formerly easy, became a labor.

The dynamometer registered R. 55. L. 17, instead of 30 to 50 as might have been expected; hyperextension of the right hand and fingers was very poor; there was tremor of both hands; the electrical reactions of the extensors, especially those of the right arm, were markedly impaired.

The patient has been under observation for the past two years, and had been known to me for several years before. Arsenic (but no lead) was found in the urine three or four times at intervals of many months, at first in relatively large amounts, afterwards in traces, until finally it disappeared.

The health gradually improved after removal from exposure, except that a moderately severe facial spasm has been present ever since. The general health has once or twice given way to some extent under hard work, but the special symptoms have never returned. I omitted to say that at one time the sensibility of the right finger tips was found slightly less than that of the left. The dynamometer finally registered

R
L 35.

I consider this case of special value for the reason that while evidently an instance of neuritis, the morbid conditions would certainly have been overlooked but for careful examination. Careful electrical examinations in doubtful cases would very likely reveal slight changes of great diagnostic importance, since we know, both from experimentation with animals, and from clinical observation, with both lead and arsenic, that there is a period when neuritis is latent as regards paralysis, and yet is discoverable by electrical tests and by the microscope.

Far more numerous than these characteristic cases of arsenical neuritis, are of course the lesser

and obscurer symptoms, and they are also really of far greater importance just because they are obscure. I shall not occupy space by discussing them, because physicians at large are not yet in the mood to consider them without prejudice, and my present object is solely to allay that prejudice. I will only remark that we have good reason to believe, not only from the history of domestic poisoning, but from medicinal, and accidental, and homicidal cases, that in chronic arsenical poisoning, or in the chronic remains of acute poisoning, two tendencies are occasionally manifest; one to relatively isolated impairment of special organs or functions (tachycardia, sexual impotence, loss of voice, irritation of the kidney, localized neuralgia, herpes zoster and other affection of the skin, etc.); the other to anæmia, or the impairment of the general nutrition, without marked local symptoms.

This latter tendency has seemed to me especially important as occurring among infants. I have, however, also seen, in consultation, in a child of two years, a generalized neuritis, with impairment of the electrical reactions, apparently due to arsenical poisoning. What is the source of the arsenic in the cases of domestic poisoning; and in what form does it act?

These questions are still unanswered, but no candid person can doubt that papers (mainly those of older date) and fabrics are mainly responsible. Probably it comes little by little from many sources and acts after accumulation. In the case of a lady, under my own care, a severe eruption, of inflammatory vesicular character, broke out all over the face and neck. She was seen by an experienced dermatologist who pronounced the eruption not eczematous, and found traces of arsenic in the scales removed from the skin. I found traces of arsenic in the urine and a large quantity in the covering of a reclining chair in which she habitually sat. The patient was subject to universal eczema, and had proved susceptible to arsenic given internally. Perhaps for these reasons the skin was unusually sensitive.

The theory that the arsenic sometimes occurs in a gaseous form cannot yet be set aside; and the mode of introduction (i. e., by the lungs) may perhaps increase its immediate violence, just as Alexander (l.c.) found that when injected under the skin of the shoulder in animals it had more constitutional effect than when injected into the peritoneal cavity. At any rate, the urine analyses prove that it comes from somewhere and accumulates in quite a quantity; and the clinical analyses prove that it may cause serious and characteristic symptoms, and a great many more slight but very troublesome and often chronic and obscure effects.

⁵ Inaugural Diss. on Arsenical Paralysis. 1889.

⁶ For details see the published report. Boston Medical and Surgical Journal, March 7, 1889.

MEDICAL PROGRESS.

Obstetrics and Diseases of Women.

DANGERS OF VAGINAL INJECTIONS.—DR. ROULIN, (*Journal de Médecine de Paris*, December 13, 1890), describes three cases where women suffered from severe symptoms after the use of vaginal injections, administered by themselves when in a sitting position. The first used the *donche can*,—fixing it rather high on the wall. Immediately after the injection violent hypogastric and lumbar pains set in, followed by vertigo and vomiting. The abdomen was not sensitive on pressure, though the pain was intense. Metrorrhagia followed and lasted for two or three days, but the pain ceased in twenty-four hours. The second case was almost precisely similar, excepting that the patient had used a hand syringe, and the symptoms were less severe. The third case also used a hand syringe. She felt a pain like a blow across the belly, but continued the injection; when it was ended lumbar and abdominal pains came on severely with rigors and chattering of the teeth, but no vomiting. The symptoms recurred on the next day when the patient got up, but on the third day she felt well and free from pain. Dr. Roulin employs laudanum enemata for these cases. The cause of the pain is obscure. The fluid rushing into the uterine cavity may act as a foreign body and set up conditions sometimes provoked by catheterism. The admission of air into the uterine sinuses has been, according to Depaul, the cause of sudden death during douching of the cervix to produce abortion. Dr. Roulin believes that water may have entered in his cases. He insists that patients must be taught how to administer vaginal injections to themselves. The patient must lie on her back and only introduce the nozzle for a short distance; nor must she play too strong a jet of fluid into the vagina.—*Archives of Gynecology*.

Pathology.

THE PIGMENT OF MELANOSIS.—DR. FELIX LAGRANGE, in a paper read before the Société d'Anatomie et de Physiologie de Bordeaux, Dec. 8 of last year, described some investigations he had made as regards the distribution of the pigment in two melanotic tumors. One case was that of a melanotic sarcoma which had been removed from the orbit, and the other was a tumor of the eyelid. Microscopic examination showed the same structure in both cases, but the tumor which had developed in the orbit was more deeply pigmented than the other, though the distribution of the pigment was morphologically the same in each case. Sections of both tumors exhibited fusiform cells and many embryonic elements. A few vessels were seen, but there were no hæmorrhagic foci. The pigment was intracellular. In some cells it was completely absent,

whilst others were so full as to lose their characteristics, and to appear as black round masses; other cells, again, contained in their protoplasm fine black granules. In order to study the nature of this pigment it was necessary to isolate it from the cellular elements. By treating a section with sulphuric acid, the cellular elements were partially destroyed. Under the influence of this reagent the sarcomatous tissue became shrivelled, remaining as a translucent structureless mass, in the centre of which was the pigment. Nitric acid was next tried; but, although the structure of the tumor was completely destroyed, there still remained a whitish residue in which the pigment remained entangled. In order to obtain a pure preparation of melanine the following process was adopted with success: Having treated a portion of the tumor in which the pigment was abundant with pure sulphuric acid, it was placed, still saturated with the reagent, for twenty-four hours in a moist chamber. In this way the now plastic tissue was partially liquefied, some glycerine was then added, and the containing vessel closed for forty-eight hours. At the end of that period there remained nothing but the pure pigment. It presented three principal forms: 1. Some black masses, evidently formed by the union of a series of granules, separated by unequal intervals, the spaces being filled by a transparent cement which had been unaffected by the acid. These masses were the remains of those cells which had appeared to be entirely filled with pigment. 2. Fine disseminated granules, which were rounded and very numerous. 3. Small irregularly shaped particles, for the most part angular, but presenting considerable variations in their form and size.—*The Lancet*.

Dermatology.

DR. L. BROCCQ (*Journ. of Cutan. and Genito-Urin. Dis.*, No. 102, March, 1891), presented to the French Society of Dermatology and Syphilography, December 11, 1890, a patient affected with a band of scleroderma extending from the upper third of the right arm to the thumb, forming a *plaque* 3 to 6 centimetres in width, and of great thickness. The patient, a cutter, could use his scissors only with great pain. Treated by Dr. Besnier in several ways without result, he was referred to Dr. Brocq in June, 1890, who up to December 1, gave him fourteen sittings of electrolysis, each treatment comprising twelve to sixteen punctures, principally in the lower portion of the *plaque*, but sometimes in the median portion. The affection was arrested and has not since increased. The arm moves more freely and the *plaque* has diminished one-half. Treatment was interrupted through August and September, but the affection did not increase, thus proving that it is not necessary to make the sittings close together.—*British Medical Journal*.

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SATURDAY, MAY 30, 1891.

YOUR MANUSCRIPT, PLEASE.

The primary province of this journal is to publish the proceedings of the annual meetings of the American Medical Association, and in order that all the members and readers of THE JOURNAL may see the papers and discussions at the earliest possible date, it is necessary that the Chairmen and Secretaries of each of the Sections shall at once transmit to the Editor of THE JOURNAL all matter in their hands for publication.

If this is done immediately, it will enable us to publish all the matter of each Section in consecutive issues, and then to make a separate reprint of the work of the several Sections for the special use of those who attended the meeting and are recorded as taking part in the Section work.

This will add very much to the value and interest taken in a work that should reflect the thought, observations and researches of many of the ablest men in our profession.

The success of the purpose will depend entirely upon the active coöperation of the officers of the Sections.

We want all the matter now, while it is fresh and of immediate interest.

The member who is holding his paper for revision and completion, and is also possessed of an idea that the adoption of such a plan will cause an early shortness of copy in THE JOURNAL office, is away off in his estimate of the amount of scintillations that are constantly emanating from the brains of more than eighty thousand practicing physicians.

BUSINESS.

Business is business, at least that is what all business men say, and the merchant, manufacturer, trader or professional man who can in one year double the value of his business by making a grand effort and don't do it, is usually regarded either as a little off, or entirely too slow to catch on to the good things that are gliding by on a rapid transit motor.

There is in this country a grand body of more than eighty thousand members of the regular medical profession, every one of whom is in some degree a debtor to the American Medical Association, and either directly or indirectly claims an affiliation with this organization. Those who directly claim the benefits have become permanent members. This number has now reached six thousand. These six thousand members own a valuable property in this Journal, each holding a single share of stock and no more. It is possible and very easy, for every one of the six thousand shareholders to induce one of the indirect beneficiaries to become enrolled as an active owner of this valuable property. The simple addition of six thousand more members will very much more than double the value of the present property, and another possible and similar increase will send THE JOURNAL ahead and beyond any similar publication in the world.

This is a reasonable and easy thing to do. Not to do it is to be counted a "little off" and too slow to take advantage of a good thing within easy reach.

This is business, and business is business.

HOUSE BUILDING AND SANITATION.

With the growth of population in cities there is a corresponding increase in the value of real property. This increased value of real estate is naturally followed by high rents, and in order to realize the largest possible revenue from a limited number of square feet of ground, the owner feels justified in erecting a building that is fairly a sky-scraper. And this without the slightest regard for the rights of his next door neighbor or the general public. Such buildings effectually darken adjacent structures by shutting off a goodly portion of God-given sun-light. They also impede a free circulation of air.

In the outskirts of the business section, elegant and inviting apartment houses are built, and in which are said to be found all modern conveniences, such as bath, water-closet, etc. These are necessary belongings in every modern city house, and in order to insure the health of the inmates, the location and construction of the plumbing work of such apartments is of the very first importance.

Our attention has been drawn in this direction by observing the great frequency with which the water-closet is stuck in an absolutely dark and unventilated niche or corner, and in many instances opening directly into the kitchen or pantry. Physicians visiting patients may with perfect propriety inquire as to the arrangement of the bath and water closet, and condemn or approve as his judgment may dictate. Many cases of sickness are directly traceable to just such causes.

One of the building inspectors should be a physician who is not only skilled in sanitary affairs, but who is also endowed with a knowledge of architecture so far as it pertains to all sanitary conditions of any building.

Practicing physicians are more or less accustomed to uninviting sights and noisome odors, but, for one moment think a little,—just a very little of the wafting odors of a freely used and unventilated water closet opening into a kitchen where an omelet, or batter for griddle cakes are being prepared; or into the pantry where the butter and milk are acting as sponges in silently mopping up the foulness in the air.—Bah!

THE MEDICAL CONGRESS OF CUBA.

The second Medical Congress of Cuba will be held in Havana in January, 1892, under the presidency of DR. JUAN SARTOS FERNANDEZ. This new organization is one of very high order and represents the strongest professional elements of the country. The published regulations show that the qualifications for membership are very high, requiring in addition to medical graduation, the possession of either an academic degree or the record of original work meriting the approbation of the Congress. The Congress meets every two years in the month of January. Papers are limited to fifteen minutes and discussion to five minutes for each speaker. Papers may be read in Spanish, French, or English.

The preliminary program announced for next meeting shows an important selection of topics. "The Etiology, Prophylaxis and Treatment of Yellow Fever," is an inexhaustible theme for Cubans. "The Influence of Malaria upon Pregnancy, Parturition and the Puerperium," is a subject of vast importance, not only to peoples of the tropics, but to the inhabitants of peludal districts in the temperate zones. "The Experimental and Clinical Study of Chronic Diarrhoea" will doubtless comprise a report of value to all practitioners. "The Abuse of Alcoholic Beverages in Cuba" will no doubt elicit about the same state of affairs that we find in this country, particularly when the subject is studied as is purposed with reference to "common causes and pathological manifestations." "The Pathology of Diphtheria and its Relation to Treatment" suggests a theme in rational therapeutics that is of wide-spread interest. In addition to such formal discussions papers will be presented on topics in every department of medical practice. The practice of announcing subjects for discussion ten months in advance of the meeting is a good one, and might be emulated with profit by medical associations in the United States.

HIGHER MEDICAL EDUCATION.

At a meeting of the Board of Trustees of the University of Pennsylvania held May 21, Dr Pepper made an offer of \$50,000 towards an endowment fund of \$250,000 and of \$1,000 annually towards a guarantee fund of \$20,000 annually, for five years, conditioned upon the establishment of an obligatory graded four year course of medical study. This was accompanied by a communication from the medical faculty pledging themselves to carry out this proposal and to enter upon the four-year course in September, 1893. It was also reported that the members of the medical faculty had themselves subscribed \$10,000 annually for five years to the endowment fund. The Board of Trustees expressed approval of the proposed advance in medical education, but postponed their assent until the success of both funds had been demonstrated.

DR. PEPPER and his associates in the faculty of the medical department of the University of Pennsylvania are evidently determined to do their part in solving the vexed question as to the best method of giving and attaining a higher medical education. It is with a good degree of pleasure that we note the disposition manifested on the

part of the best medical colleges to form practical connections with established universities. This is the first step necessary, before making an appeal for endowments of chairs, scholarships, and laboratories.

The medical department of a University with an ample endowment, ensures a proper preliminary examination, a thorough course of instruction, followed by the granting of a degree that means something.

EDITORIAL NOTES.

SMALL-POX IN HAVANA.—The last issue of the *Revista de Ciencias Medicas* of Havana announces fifteen deaths from small-pox in that city during the month of April. Dr. Laguardia, of the Sanitary Department, announces that the disease is spreading.

HIGH BUILDINGS.—We are glad to observe that a discussion is going on among the architects and engineers of Chicago, relative to the safety of the extremely high buildings which are in course of construction in this and other large cities. This is a subject of the utmost conceivable importance. The fall of such a structure when filled with an army of workers would be a calamity of the greatest magnitude.

While we are ever ready to utter an encouraging word to those who are engaged in all laudable enterprises, profound consideration must be given to any conditions which jeopardize and hazard human life.

The sanitary arrangements of such buildings are usually first class and as perfect as art can make them.

SOCIETY PROCEEDINGS.

American Academy of Medicine.

The sixteenth annual meeting of the American Academy of Medicine was held at the Arlington Hotel, Washington. The opening session was on Saturday, May 2, the meeting continuing through Monday the 4th. The wisdom of holding the sessions of the Academy in connection with those of the American Medical Association was demonstrated by the attendance: it was the largest meeting in the last seven years. The attention of the Fellows was directed to those three items, the Reports of Committees, the reading and discussion of papers, and executive business.

Dr. J. E. Emerson, of Detroit, reported for the committee on Eligible Fellows, of which he is chairman. The practical results of the workings of this committee is seen in the list of Fellows elected, most of whom were investigated and invited by the committee. The committee emphasizes in their report, the necessity of every Fellow considering himself a coadjutor of this committee.

The Committee on the preparation of a catalogue of Fellows, submitted two forms for arranging the names and the facts to be presented, asking directions from the Academy before additional work should be done.

The Committee on the publication of transactions suggested the issuing of an occasional Bulletin containing such papers, reports or information as the Academy would from time to time desire to publish.

The Committee on the comparative value of Academic degrees presented a voluminous report. This committee had addressed a circular letter to all the colleges in the land asking for certain facts and opinions. The report endeavored to tabulate the replies from over a hundred of them. The reports were referred to the Council, who subsequently made certain recommendations to the Academy, as will be seen a little later.

The only paper read on Saturday was entitled "The American Practitioner Abroad." It described the present status of an American physician who desires to practice in Great Britain, called attention to the fact that, while parliament enacted that after a date to be fixed by her Majesty's Council, certain foreign qualifications would be admitted to registration, the Council had never fixed the date and the enactment was a dead letter. The paper suggested that the Academy endeavor to secure reciprocity in the matter.

The more important papers were read at the session on Monday morning, the first by LEWIS H. STEINER, M.D., of Baltimore, Md., entitled

WILL A SHORTENING OF THE COLLEGE CURRICULUM CONDUCE TO BETTER PREPARATION FOR THE STUDY OF MEDICINE.

1. We are told that one great advantage will result from a shortened course, viz., the student can begin his professional studies at an earlier age and so assume the responsibilities of practice while yet young. But is it not a well known fact that youth is frequently cast up against the young doctor as an unpardonable defect in his professional make-up? Experience is sought for by a prudent public. There is now no greater urgency for this rapid creation of doctors than has existed for years, although there is a demand from the medical profession and the laity that the best preparation possible should be had by the intending doctor—that he should be a man of broad, well-rounded general culture and thoroughly trained in the principles of the profession.

2. It is said that the period of study must be diminished because students enter college now at a more mature age than in former years. But President Angell, of the University of Michigan, says that the age of entrance in his institution is not increasing but diminishing. Probably Ann Arbor fairly represents in this particular the great body of American colleges. If, however, the statement be correct it would not affect the subject very materially. Indeed, the question of age has not been raised by the advocates of full academic preparation. It is one solely of preparation, and this is believed to be best secured by the training that has heretofore produced satisfactory results. The routine of work must be adapted to the average man. The brilliant scholarly mind will compass it easily and will be able to supplement it with other important additions to his preparation for subsequent professional study, while there may be some who cannot keep abreast of the lowest requirements, and who must necessarily drop out of the struggle. This unequal contest must be expected and should the mental capacity in any case be too small to compass the college curriculum, what kind of addition to the medical profession would its owner ordinarily make? The present need is not that of mere numbers. Quality and not quantity is looked for. Possibly in this country we are so impatient of slow processes that our tendency is to superficiality. The English, the German and the French are more content to work slowly. The result of this is better all-around preparation for whatever they undertake.

The plan proposed will not conduce to the favorite object of the academy. It will accomplish nothing but an increase of college graduates. The value of the "A. B." degree will become an uncertain quantity.

This conclusion must be reached—that there must be some general consensus among medical colleges as to the nature and amount of the preliminary study and that the fact whether sufficient acquaintance with it has been attained by the applicant must be determined by some examining board. Should such board be composed of the faculties of medical colleges, or of professional men who are invested by the state with authority?

CHARLES MCINTIRE, A.M., M.D., of Easton, Pa., read a paper on

AN ATTEMPT TO DETERMINE THE IDEAL PREPARATORY COURSE OF STUDIES FOR THE LEARNED PROFESSIONS.

College education should train the mind and provide an amount of general information. The pupil himself and the personality of the teachers are important factors in an educational scheme, but as they cannot be weighed they must be treated as a constant factor in a mathematical problem. The educational world in Germany

and England as well as in the United States is in a state of unrest. With us the assigned cause is that it takes too long for a man to take a complete course and to enter upon professional life.

The plan suggested in this paper was gleaned from the opinions of a large number of college presidents obtained by private correspondence. The American system of education is not a system organized by a previous plan, but we should remember that every prolonged educational training should comprise the study of the essential studies for an educated man, having but one course so that upon its completion one can either go into business or enter college, as the case might be. This would rather shorten this period, but the pupil would enter without break into college, and in one of several courses pursue his studies with a view of mental discipline and general information. His special studies, whether professional or otherwise, would be continued in the universities, and no candidate would be admitted for a university degree unless they already possessed a college degree or could pass an examination upon the college studies. The conclusion emphasized the fact that the paper was but an imperfect representation of the thoughts of others.

The third paper was on the

GENERAL EDUCATION OF THE PHYSICIAN,

by DAVID STARR JORDAN, A.M., M.D., President of the University of Indiana, Bloomington, Ind.

The A. B. degree, as generally understood, is an index of general culture. With the improvement of our educational methods the requirements for this degree have been steadily advanced. The result is that the student who has spent all his life in the schools is not through college before the age of 22, and the man who is forced for any reason to interrupt his school work may be anywhere from 25 to 30 on graduation. This fact has led to a demand for the shortening of the college course in the interests of practical life. That the college course is too long is practically the verdict of the medical colleges and of the great body of physicians themselves. The medical colleges have made the preliminary training a matter of luxury rather than of necessity by putting into the same classes the graduates of colleges and persons who come from the country district school.

The physicians of our country say the same thing, for the number of college-bred men in medicine is lower than in almost any other profession (clergymen 1 in 4, lawyers 1 in 5, physicians 1 in 12). Of all classes of students those in medicine are, as a rule, the most reckless in their mode of life, and the most careless of the laws of hygiene and of decencies in general. This is not so true now as it was a few years ago, and for

this change the rising standards of our medical school are certainly responsible.

A writer has lately maintained that a man without independent means should not study medicine. The physician can no longer be sure of earning his living in our cities, on account of the competition of free dispensaries. But skill and wisdom will always be valued and paid for.

It is said that physicians are not taking their share in the progress of science. If this be true, and if they are deficient in general culture, may not these facts be associated? May we not have here the relation of cause and effect? Is not the remedy to bring in better men? To shut out the ignorant, trifling and unambitious, the tinker and the job worker, and reserve the training of our medical schools to those who can bring to their work the instincts, the tradition and the outlook of the scholar? The general culture of the physician should have its roots in the work of the college. If we require or recognize collegiate attainments at all, the A.B. degree furnishes the only available method by which general culture might be indicated. This standard is not absolute. It means something different in one college from what it does in another. It does not mean to-day what it did ten years ago, or what it will mean ten years hence. The value of the degree is not to be determined by the percentage of required work in any study. The essential fact is the extent to which the spirit of the scholar has been inspired in the student, and this varies in every case with the difference of teacher and scholar.

Is the standard of the A.B. degree too high for professional work? No such view can be sustained by statistics. The educated physician is the man of science; the uneducated the empiric, the quack. Our medical schools seem to think otherwise, for if general training is important the schools should insist upon it. This condition of things has two causes: 1. Most of our medical schools are scantily endowed. When a medical school is well endowed it can exact the standard the good of the profession requires. 2. The medical student has shunned the college because of the tremendous waste involved in any course of study inflexibly pre-arranged. This waste is threefold: *a.* The time spent on subjects in no wise concerned with the future study of the subject. *b.* The time spent on subjects for which the student has no aptitude. *c.* The waste of subjects taught by dull teachers, dry, dreary, or mechanical.

If our medical schools cede four years to the culture of the colleges they have the right to ask that the colleges waste no time. The college should furnish such means of study that the future student shall not go to the medical school ignorant of the use of the scalpel and the microscope. He should also know the general facts

and theory of chemistry, and the processes of chemical manipulation. The elements of botany should be in his possession, and the facts of comparative anatomy, the great laws of life of heredity, variability, and response to external stimulus which form the basis of organic evolution. He should know what is meant by scientific investigation and should know how to use it. He should be able to write and speak good English and must read French and German. If the college permits the medical student to get a fair return for every hour he spends, the requirement of a college degree at the door of the medical school will shut out no unworthy man, nor will it hold back any in the race for life.

We may fairly regard the various degrees (A. B., B. S., etc.) given by the various colleges as alike in value, and leave the adjustment of their relation to the colleges themselves. Against spurious degrees the Academy of Medicine must be on its guard. *Scholars* can be made neither by driving nor by coaxing. In any profession the inspiration and example of educated men is the best surety that the generation which succeeds them will be likewise men of culture.

The discussion of these papers was opened by Dr. F. R. Gerrish, of Portland, Me., and continued by Drs. Herdman, of Ann Arbor, Mich.; Marcy, of Boston; Connor, of Detroit; Hill, of Iowa; Snidsley, of Kentucky, and others.

The Annual Address was delivered by the retiring President, THEOPHILUS PARVIN, A.M., M.D., LL.D., of Philadelphia. Dr. Parvin's "ruling passion was strength in death," his subject being "*Miscarriages.*" Unfortunately, it is a paper that does not bear abstracting, it is too concise in its entirety. The miscarriages spoken of were those of medical books, medical journals, the work of medical societies, of medical colleges and of medicine itself. Of medical books but one fifth give any recompense to the author, and at the best but a dollar a page. A still smaller proportion of medical journals pay even indirectly, and many of them likewise fail in the true work of journalism.

Medical societies, while organized for the purpose of general professional improvement, sometimes are made to promote individual interests. As to medical colleges, even in the best sometimes an unworthy man secures his doctorate. And even in medicine itself, sometimes there is a failure to cure. Methods of treatment come into the world but to die because of imperfect development. Bacteriology, perhaps, has received more attention than it deserves, and in the years to come it will not be as prominent as now. The address was concluded by an argument against vivisection as a method of medical investigation, since its results are not, without clinical confirmation, reliable, and that clinical observation is and has proved itself to be amply sufficient for the purpose.

In its executive sessions the Academy elected to Fellowship the following gentlemen:

Drs. A. B. Dunder, P. J. Surtam, N. W. Richard, L. P. Smock, A. H. Halberstadt, of Pennsylvania; G. A. Hare, J. W. Lash, G. E. Smith, F. House, C. L. Van Pelt, of Ohio; Christian Fenger, B. M. Behrens, C. M. Hansen, A. Holmboe, L. H. Mettler, of Illinois; W. W. L. Phillip, H. R. Baldwin, George Peck, of New Jersey; W. Rider, J. C. Edgar, M. N. Bemus, G. W. V. Van Voast, M. Filter, Chas. G. Cumer, of New York; S. W. Turner, J. K. Mason, of Connecticut; J. B. Brasseur, R. Peterson, V. C. Vaughan, J. N. Martin, of Michigan; A. H. Wright, of Canada; J. R. Lewis, of Iowa; W. H. Harris, of Kentucky; A. C. Rogers, J. H. Darcy, of Minnesota; Willard Springer, of Delaware; Charles Denison, of Colorado; W. R. Cluness, J. R. Smith, of California; J. F. Keeney, of District of Columbia; J. T. Green, of Arizona; and D. A. Sargent, of Massachusetts.

There were three amendments to the Constitution proposed, two of which were postponed for a year; the other, permitting the election to office of Fellows not present, was adopted.

Two years ago an amendment was adopted permitting the Council to accept other evidence of a preliminary medical education than the degree of A.B. This year, at the recommendation of Council, the Academy adopted the suggestion of the Committee, defining the nature of the evidence. Applications upon the equivalent clause must show that they have had a period of residence at some college of arts or sciences. If they are graduates, then the degree possessed must be, in the opinion of the Faculty, fairly equivalent to the A.B. degree. If the applicant has not graduated, then there must be a certificate from the Faculty of the college as to the standing of the applicant while in college, and the time of residence.

Steps were also taken for the adoption of a minimum standard for the degree of A.B.

The officers for the ensuing year are:

President—Phineas S. Conner, of Cincinnati, O.
Vice-Presidents—R. Lowry Sibbet, of Carlisle, Pa.; George J. Fisher, of Sing Sing, N. Y.; Henry M. Lyman, of Chicago, Ill.; Louis S. McMurry, of Louisville, Ky.

Secretary—Charles McIntire, Easton, Pa.

Assistant Secretary—E. M. Green, Easton, Pa.
Treasurer—J. Cheston Morris, Philadelphia.

After a satisfactory disposition had been made of the weightier matters, the Fellows in a lighter vein indulged in reminiscences of former spreads, and enjoyed the good things placed before them in the spacious banquet hall of the Arlington.

The time and place of the next meeting will be determined by the Council.

DOMESTIC CORRESPONDENCE.

Observations on "Koch's Lymph."

156 Washington ave., cor. Camp st.
NEW ORLEANS, LA., April 28, 1891.

His Excellency BENJAMIN HARRISON, President United States of America, Washington, D. C.

Sir:—I have the honor to acknowledge the following:

"Executive Mansion, WASHINGTON, D. C.,
January 19, 1891.

Professor JOSEPH JONES, Charity Hospital, New Orleans, La.

My Dear Sir:—At the President's direction I beg to send you by express, to day, one vial of Koch's lymph for such use as you may deem wise to make of it.

It was forwarded to the President by the American Minister in Germany. Very truly yours,

E. W. HALFORD, Private Secretary."

I beg leave respectfully to submit to your Excellency the following brief report on this vial of Koch's lymph.

The small vial of Koch's lymph containing about five grams (about seventy-six drops) of a dark brownish red liquid, accompanied by directions for its use, signed by Dr. A. Libbertz, of Berlin, Germany, was delivered to me in person, at my office, 36 University Place, by the express agent.

Holding that your Excellency designed this humane bequest, not for private ends, but for the benefit of suffering humanity, and the promotion of scientific inquiry, I placed a portion of "Koch's lymph" contained in the small vial, at the disposal of the medical and surgical staff of the Charity Hospital, of Louisiana, as will be seen from the following correspondence:

[Official business.] 36 University Place,

NEW ORLEANS, LA., Jan. 22, 1891.

Professor A. B. MILES, M.D., President Surgeon Charity Hospital, New Orleans, La.

My Dear Doctor:—On the 22nd inst. I received by express a small vial of "Koch's lymph," together with the enclosed communication from the private secretary of his Excellency President Harrison. . . .

I respectfully tender to the Surgeon in Charge of the Charity Hospital, and through him to the medical and surgical staff, a portion of the "lymph," for the treatment of the patients in the wards of the Charity Hospital, provided that I be furnished with accurate reports of each and every case thus treated. Respectfully your obedient servant,

JOSEPH JONES, M.D.,

Visiting Physician Charity Hospital.

Charity Hospital, State of Louisiana,

NEW ORLEANS, Jan. 26, 1891.

Prof. JOSEPH JONES, M.D., Visiting Physician Charity Hospital.

My Dear Doctor:—I beg to acknowledge receipt of your favor of the 22nd inst., tendering to the Surgeon in Charge of the Charity Hospital, and through him to the medical and surgical staff, a portion of the lymph which you have received from President Harrison.

Accept my thanks for your courtesy in this matter.

I will inform the members of the medical and surgical staff of your kind offer, and refer to you those who desire to experiment with the lymph in their ward service. Yours very truly,

A. B. MILES,

House Surgeon.

We extract the following from the official proceedings of the Board of Administrators of the Charity Hospital, April, 1891:

Dr. Miles reported relative to "Koch's lymph," in which he said the world was taking interest.

Dr. Joseph Jones had received a vial and tendered it to the hospital. He had placed a notice

on the bulletin board, inviting others to use it in safe bounds, if they thought proper. No one had applied to use it. For himself he did not care to use it yet, as he did not deem the lymph or its substance sufficiently understood. It may yet be used in the hospital, but it would be best to await further results from it.

Assisted by my Chiefs of Clinics Dr. Stanhope Jones and Dr. J. M. Elliott, I examined the cases in the wards under my care in the Charity Hospital daily, up to the middle of March, with a view to the use of "Koch's lymph" in the diagnosis and treatment of phthisis pulmonalis and other forms of tubercular disease.

That this agent or drug was not used in the treatment of diseases under my care in the wards of the Charity Hospital, of New Orleans, was due to the following causes:

a. No case presented itself which I deemed suited to the application of Koch's treatment without danger to the welfare of the patient.

b. No case presented itself of which the diagnosis was so obscure as to require the institution of a doubtful experiment.

c. Without exception the patients under my treatment and care in the wards of the Charity Hospital declined to submit to this mode of treatment.

d. The extensive prevalence of influenza, in a severe and often fatal form, and which attacked with especial violence those suffering with phthisis pulmonalis, rendered the injection of an irritating agent into the living human body hazardous.

In accordance with what I conceived to be the humane and charitable intention of your Excellency, I have held the small vial of "Koch's lymph" sacred to scientific and charitable investigations.

I have received a number of applications from physicians and private individuals for the use of this "Koch's lymph" in private practice and in institutions other than the Charity Hospital of Louisiana, and I have uniformly refused such applications. Such applications appear to have been based upon a misapprehension of the intention of your Excellency, and upon ignorance of the therapeutic value and power of a quantity of liquid too small to supply more than one drop and a half to each one of the fifty-two wards of the Charity Hospital, with a daily average of 550 and an annual average of about 7,000 cases of all diseases.

OUTLINE OF RESULTS OF CHEMICAL AND MICROSCOPICAL EXAMINATION OF THE CONTENTS OF VIAL OF "KOCH'S LYMPH."

The objectives employed in the following observations ranged from one-fifth to one-fifteenth of an inch. Due precautions were taken to secure such results as were possible in the chem-

ical and microscopical manipulation of the small amount of material.

PROPERTIES OF "KOCH'S LYMPH."

1. Reddish brown liquid, with oily movement and consistency of thin glycerine.
2. Clear, with a few minute flocculi.
3. Musty odor like that of stale beef extract.
4. When burned in flame of alcohol lamp emits an odor like burning beef extract.
5. Reaction strongly alkaline.
6. When a drop of the undiluted liquid was placed in the eye of a living animal it appeared to cause a disagreeable sensation, attended with closing of the lids temporarily, but it induced no permanent irritation or inflammation.

A repetition of this experiment caused no perceptible injury to the eye or animal.

7. No appreciable effects were induced by the "lymph" when administered internally by the mouth to living animals.

The fluid in its innocuous effects, when applied to living mucous membrane, differed from the poisonous alkaloids, and from hydrocyanic acid and the cyanogen compounds.

8. Mingles rapidly and freely in all proportions with distilled water.

9. When injected with varying degrees of dilution with distilled water (50 per cent., 25 per cent., 10 per cent., 1 per cent. and 0.1 per cent.) into the subcutaneous tissues of living animals, cats, rabbits, and guinea-pigs, only slight local irritation, and no sloughing, was induced at the points of injection. The injections were followed by fever of greater or less intensity and duration. The animals appeared to regain their normal conditions in varying periods of four to seven days, but were reserved for future observations. The liquid appeared to be far inferior in its immediate effects, when injected subcutaneously, to prussic acid, strychnine, and serpent poison. Neither did it manifest effects identical with septic poison.

10. Uncoagulated by heat.
11. Uncoagulated by nitric acid.
12. Uncoagulated by heat and nitric acid.
13. Chemically pure absolute alcohol threw down from the "lymph" a flocculent whitish deposit.
14. Solution of nitrate of silver threw down a heavy white deposit, showing the presence of chlorides in considerable amount.
15. Soluble baryta salts gave slight precipitates.

16. Stannous salts gave no evidence of the presence of the salts of gold.

17. Microscopical examination of the undiluted "Koch's lymph," with objectives ranging from one-fifth to one-fifteenth of an inch, revealed the presence of minute ovoid and rod-shaped bodies, resembling the spores and bacilli of the bacillus tuberculosis, as originally described by the eminent

microscopist, Professor Robert Koch. These microorganisms, in their size, structure, and behavior with staining agents, corresponded with the bacillus tuberculosis.

18. When the "lymph" was diluted with boiled distilled water, and preserved in chemically clean test tubes, the mouths of which were carefully and completely guarded by antiseptic cotton wool, the fluid became turbid. Microscopical examination revealed the fact that the turbidity was due to the multiplication of microorganisms presenting physical and chemical properties similar to those of bacillus tuberculosis.

19. The addition of a drop of the "lymph" to Pasteur's sterilized liquid was followed by the development of the spores and slender rod-shaped organisms resembling the bacillus tuberculosis.

20. The spores and bacilli of "Koch's lymph" were cultivated, with the necessary precautions to exclude all external germs from the atmosphere and external objects, upon various substances or media, as serum, blood, boiled Irish potato, boiled and coagulated white of egg, and boiled aseptic crystallized sugar.

21. The cultivations in fresh blood were strongly alkaline, those of the Irish potato, white of egg and sugar were acid.

22. When a small quantity of the "lymph" was added to a carefully sterilized solution of crystallizable sugar, the clear solution became turbid from the development of bacilli, and emitted a distinct sweetish acid odor, similar to that which I have often observed to be exhaled by patients suffering from phthisis pulmonalis in the advanced stages.

CONCLUSIONS.

a. The active principles of "Koch's lymph" appear to reside in a colloid nitrogenized compound coagulable by absolute alcohol, and in living germs, microorganisms, spores and bacilli, similar to those of the bacillus tuberculosis, and capable of multiplying within and without the living organism.

b. The potent effects of "Koch's lymph" when introduced into the blood of healthy and diseased human beings may be referred in part, at least, to the rapid multiplication and action of microorganisms similar to, if not identical with, the bacillus tuberculosis.

c. The results of the chemical and microscopical examination of the contents of this vial of "Koch's lymph" have led me to exclude this liquid from the list of remedial agents.

I beg to be permitted to say that in the effort to discharge what appeared to be my duty I have endeavored to serve the art, and not the trade of medicine, believing that honorable, legitimate medicine has no secrets to conceal, and holds no remedy which is not the common heritage of the

glorious brotherhood of the noble republic of science.

With great respect, and with many thanks for the generous consideration of your Excellency, I have the honor to remain your obedient servant,
JOSEPH JONES, M.D.

Letter from Dr. W. H. Daly, Pittsburgh, Pa.

To the Editor:—Replying to a letter on page 647. May 2, 1891, of THE JOURNAL of the Association, permit me to say, that at the last meeting of the Association in Nashville, I was invited to open the discussion on the medical treatment of diphtheria.

The time limit is *ten* minutes; I occupied but *six*, as can be verified by reading my remarks in THE JOURNAL of October 11, 1890. Now it is scarcely possible for one to be exhaustive on that subject, in so short a time. Much must be omitted, and I omitted much. Yet there was probably not a person who did me the honor to listen to me at the meeting, nor one who read my remarks in THE JOURNAL of the Association, with the possible exception of Dr. Kornig, who did not fully know and understand that I had already in the paper to which I referred, not only again drawn the attention of the profession to the value of the calomel treatment of diphtheria under the title of "the simplest and most efficient treatment of diphtheria," which I read before the congress of the American Laryngological Association in Philadelphia in 1886. A reprint of that article, I beg herewith to hand you, that you may see the following quotations are unmistakably correct.

You will see that I therein stated the plan was *not new* and in verification I quoted a case of the child of the celebrated author, Divine and wit, Rev. Sydney Smith, who was treated by Dr. Hamilton in 1797 in Edinburg, Scotland, by administering 2 grains of calomel every hour—the child recovering.

You will see that I further gave my deceased friend, Dr. M. C. Reiter of Pittsburgh, full credit, which is well known not only to the estimable family of Dr. Reiter, but to the entire profession (unless possibly to the writer of that letter in the last issue of THE JOURNAL). I now quote from my remarks in that paper.

"Now, briefly, as to the credit for the practice of the calomel treatment of diphtheria in modern medicine. To Dr. William C. Reiter, of Pittsburgh, a gentleman who was learned in other sciences as well as in medicine, this credit is due. He was the apostle of this plan of treatment of diphtheria, and he for many years persistently practiced the treatment, and promulgated the doctrine to his brethren, many of whom were at first unbelievers; he was an earnest and honest observer, fearless in the practice and assertion of what he deemed right. He had large experience and ripe judgment, and, as he stood for many years almost alone in the advocacy of the

plan, he deserves still more our respectful praise and free acknowledgment.

"In medical works the various mercurial plans of treatment are mentioned, of late years, without, so far as I have observed, according to Dr. Reiter, the credit of having advocated and practiced the method of treating diphtheria by the exhibition of calomel. I regard all the other mercurial preparations as mere excuses or ineligible substitutes for this best of all mercurials in diphtheria—viz., calomel. To any one caring to see the brochure of Dr. Reiter, which is little known of, and is so peculiar in its style as to entitle it to be considered an oddity in medical literature, I will say that it was published by J. B. Lippincott & Co., in 1878, and is entitled "A Monograph on the Treatment of Diphtheria based upon a New Etiology and Pathology," by William C. Reiter, A. M., M. D."

The widest publicity was given to that paper, through the kind consideration of the medical press, and it was reprinted in extenso in several American and European journals, and in some of the latter in an abbreviated form. There were also 3,000 reprints, sent to members of the profession, especially to my fellow members of the Allegheny Co. Medical Society, of which the writer of that letter was then a member. Consequently, my disavowal of originality in the matter, as well as my just encomiums upon my deceased friend were *well* published, and *well* known, and I cannot understand how Dr. Kornig, whose name is advertised in the columns of a medical journal as a co-editor, could have failed to have read the article somewhere.

The readers of THE JOURNAL of the Association have probably all heard of the man "who on first hearing the story of the Crucifixion, hit the first Jew on the nose that he happened to meet thereafter, and on being remonstrated with, in that the event had occurred nearly 2000 years ago, justified himself on the ground that he had just heard of it, and was determined to wreak retribution."

The readers of that letter can scarcely have failed to have also *read between the lines*, and discovered a lurking animus. Altogether it presents another case of a man who has sat down with no chair behind him. Very respectfully,

W. H. DALY.

135 5th Ave, Pittsburgh, Pa.

MISCELLANY.

OHIO STATE MEDICAL SOCIETY.—Forty-sixth Annual Meeting at Sandusky, Ohio, June 17, 18, and 19, 1891.

Officers.—President, W. J. Conklin, Dayton. Vice-Presidents: D. N. Kinsman, Columbus; B. L. Millikin, Cleveland; D. J. Snyder, Scioto; Orpheus Everts, College Hill. Secretary, G. A. Collamore, Toledo. Assistant Secretary, J. A. Spence, New Philadelphia. Treasurer and Librarian, T. W. Jones, Columbus.

Committee of Arrangements.—S. S. Thorn, A. J. Gawne, H. A. Tobey, Wm. Caldwell, F. D. Bain.

First Session—Wednesday, June 17.—1. Call to order.

2. Report of Committee of Arrangements.

3. Business which requires early consideration.

4. Annual Reports of Treasurer, Librarian and Secretary.

5. Reports of Standing Committees: Committee on Admissions and Medical Societies. Committee on Finance. Committee on Publication. Committee on Legislation. Committee on Ethics.

6. Reports of Special Committees: Committee on "Act providing for the Protection of Physicians, etc." P. S. Conner, Chairman. Committee on Organization of County Societies and their Relation to the State Medical Society. T. A. Reamy, Chairman.

7. Reports from Delegates to the American Medical Association and other Societies.

8. Appointment of Committee on Nominations.

9. Papers: "The Surgical Treatment of Chronic Catarrhal Appendicitis." R. Harvey Reed, Mansfield. "Notes on the Treatment of Syphilis." W. T. Corlett, Cleveland. "A Plea for a More Extended Supervision of the Parturient Woman." D. R. Silver, Sidney. "Hernia." Dudley P. Allen, Cleveland.

Evening Session.—1. Papers: "Carcinoma, a form of Perverted Nutrition." H. J. Herrick, Cleveland. "A Rare Case of Pelvic Dropsy; Operation; Cure." J. F. Baldwin, Columbus. "Spinal Supports." S. L. McCurdy, Dennison. "Compound Ganglia; Treatment by Operation." C. S. Hamilton, Columbus. "Three Cases Radical Cure of Hernia by the Use of the Buried Antiseptic Animal Suture." F. C. Larimore, Mt. Vernon.

Tuesday, June 18—Morning Session.—1. Reports of Committees.

2. Papers: "A. C. E. Mixture." J. C. Reeve, Dayton. "Anaesthetics; the Dangers in the Use of Chloroform as compared with Sulphuric Ether." E. H. Hyatt, Delaware. "Tuberculin in the Treatment of Tuberculosis." J. T. Whittaker, Cincinnati. "Influenza." D. N. Kinsman, Columbus. "Convergent Squint and its Cure." C. W. Tangeman, Cincinnati. "Some Facts every Practitioner ought to know about Squint." A. R. Baker, Cleveland. "The Treatment of Retention from Hypertrophy of Prostate." N. P. Dandridge, Cincinnati. "Fracture of Dorsal Vertebrae." A. W. Ridenour, Massillon.

Afternoon Session.—1. Reports of Committees.

2. Election of Officers.

3. Selection of the Place for the next Meeting.

4. Papers: "Report of Cases, with Comments." T. A. Reamy, Cincinnati. "Removal of Uterine Appendages; Supplemental Report." R. B. Hall, Cincinnati. "Operative Treatment of Uterine Cancer." D. Tod Gilliam, Columbus. "High Amputation of Cervix." B. F. Hart, Marietta. "Cases of Extra-Uterine Gestation." W. D. Hamilton and C. S. Hamilton, Columbus. "The Value of Draining the Pelvis, in Case of Bleeding after Operation." M. Stamm, Fremont.

Evening Session.—President's Address. "A Page of Medical History; Moliere and the Doctors." W. J. Conklin, Dayton.

Friday, June 19—Morning Session.—1. Reports of Committees.

2. Papers: "Modern Methods of Treatment for Nose and Throat Diseases accessible to the General Practitioner." Jas. E. Nichols, N. Y. City. "Tonsillotomy and After-Treatment." T. V. Fitzpatrick, Cincinnati. "Intubation." Geo. Goodhue, Dayton. "Papilloma of Larynx; Case." A. B. Thrasher, Cincinnati. "Exploratory Incisions of Knee Joints." B. Merrill Ricketts, Cincinnati. "Gonorrhea in Women." C. N. Smith, Toledo. "Home versus Hospital Treatment of the Insane." A. B. Richardson, Cincinnati.

Afternoon Session.—1. Reports of Committees.

2. Papers: "Hyperemesis Gravidarum." W. A. Dickey, Tiffin. "Tests for Albumen." W. B. Davis, Cincinnati. "The Limitations of Dermatology." Edward Preble, Cleveland. "Spinal Concussion." G. W. Crile, Cleveland. "Salpingitis; with a Report of two Cases." A. B. Walker, Canton. Volunteer Papers.

3. Oral Communications.

4. New Business.

5. Unfinished and Miscellaneous Business.

As the program contains a large number of papers, the attention of readers is called to Section V, of By-Laws: "Not to exceed thirty minutes shall be allowed for the reading of any paper."

The Sessions of the Society will be held at the Hall corner Washington Row and Jackson Street; first Session at 2 P.M., Wednesday, June 17.

Hotels.—West House; Sloane House, \$2.00 and upward per day.

DR. SAMUEL O. L. POTTER, Professor of Medicine in the Cooper Medical College of San Francisco, and a graduate of Jefferson Medical College of Philadelphia (with first prize, '82), recently passed the required examination and was admitted on April 30 last, a Member of the Royal College of Physicians of London, forming one of a class of nine candidates, all of which were M.D.'s of British Universities, viz.: three of Cambridge, one of Oxford, one of Edinburgh, two of London, one of Aberdeen.

Those who understand the peculiar rank of British qualifications will recognize the M.R.C.P. of London as the "hall-mark" of the British medical profession, and that it is a coveted one may be seen from the fact that all the candidates therefor were previous M.D.'s or M.B.'s of universities—asking this as an additional honor. The qualification of this college given at the ordinary final examination of students is the license, "L.R.C.P." London, and does not admit, as does the membership, to the college itself.

The only other Americans holding this qualification are Prof. Osler, of Baltimore, and Dr. Robinson, of San Francisco. It is also held by two English practitioners in California, and one in Washington, one in Canada, and one in British Columbia.

We understand that Dr. Potter left his bed in convalescence from broncho-pneumonia to undergo the examinations of the week ending April 30, and that he has since had a relapse and is dangerously ill.

OFFICERS OF KANSAS STATE MEDICAL SOCIETY for ensuing year: President—J. E. Oldham, M.D., Wichita, Kan.; First Vice-President—A. H. Corder, M.D., McPherson, Kan.; Second Vice-President—J. T. Axtell, M.D., Newton, Kan.; Treasurer—L. A. Buck, M.D., Peabody, Kan.; Secretary—W. S. Lindsay, M.D., Topeka, Kan. Next place of meeting, Ft. Scott, May, 1892.

THE SOUNDS OF COLORS.—A beam of sunlight is made to pass through a prism so as to produce the solar spectrum or rainbow. A disc, having slits or openings in it, is made to revolve, and the colored light of the rainbow is made to break through it and fall on silk, wool, or other material contained in a glass vessel. As the colored light falls upon it, sounds will be given by the different parts of the spectrum, and there will be silence in other parts. If the vessel contains red worsted, and the green light flashes upon it, loud sounds will be given. Only feeble sounds will be heard when the red and blue parts of the rainbow fall upon the vessel.—*Times and Register*.

IMPORTANT IMPROVEMENT IN MICROSCOPIC LENSES.—It is stated that an immense improvement has recently been effected in the manufacture of glass for optical instruments, by means of the addition to the ordinary materials of phosphorus and chlorine, which in some, as yet unexplained, way cause the glass to be very much more transparent, and enable it to receive a much higher

degree of polish than any optical glass hitherto manufactured. Thus microscopes can be made which will render objects of the diameter of only the one-eighth millionth of a millimetre visible, whereas with the best instruments now in use the diameter of the smallest object that can be seen is one-sixteenth thousandth of a millimetre.—*Lancet*.

THE AMERICAN MEDICAL ASSOCIATION.—The meeting of the Association which has just closed at Washington, was in many ways a success. With such a man as Dr. Briggs in the chair, and master minds like Shurly and Mathews, to give the principal addresses, the general sessions could not but be interesting. Those who have read the thoughtful addresses already published must feel proud of the men who can so grace our guild by word and deed.

The reports of the sections are not as yet ready, but it is safe to anticipate their reception, and say that each year there is a growing demand for more and better work in each section. Sometimes, indeed, it seems that the main drift of the Association is political, that the main chance is with the committee on nominations and the chief prizes are the leading offices; just then some grand work will be announced, some reliable conclusion given, or some valuable research reported and the scientific worth of the Association will again be in the ascendency.

Thus, as in all progress, there is an ebb and flow and we are satisfied if only the tides does not run too low, as it sometimes threatens to do. We confidently believe, however, in the great field of usefulness which the American Medical Association is to occupy. Some changes must be made for the greater economy of time and the proper selection of material; some advantages may be gained by the formation of local branches, and some new enthusiasm aroused by holding out inducements for scientific research and original investigation.

The American profession is pledged to the support of the American Medical Association and there must be its hindrance to its progress and no prostitution of no purposes.—Editorial in *The St. Louis Clinique*.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 10, 1891, to May 22, 1891.

Capt. Marshall W. Woods, Asst. Surgeon U. S. A., is hereby granted leave of absence for one month, to commence on or about the 13d inst. Par. 1, S. O. 104, Div. Atlantic, May 20, 1891.
Capt. George McCreery, Asst. Surgeon, is relieved from duty at Ft. Clarke, Tex., and will report in person to the commanding officer, Ft. McIntosh, Tex., for duty at that post. By direction of the secretary of War. Par. 4, S. O. 114, A. G. O., May 19, 1891.
Capt. William B. Banister, Asst. Surgeon, is assigned to duty as medical officer with Troop B, Sixth Cavalry, while en route from Ft. Meyer, Va., to Ft. Washburn, Wyo. On arrival of the troop at its destination, Capt. Banister will return to his station at Washington Bks. Par. 3, S. O. 104, Div. Atlantic, May 20, 1891.
Capt. John A. Skinner, Asst. Surgeon U. S. A., Ft. Davis, Tex., will proceed at once to Ft. Clarke, Tex., and report to the commanding officer for temporary duty. Par. 1, S. O. 44, Dept. of Texas, May 13, 1891.

By direction of the Secretary of War, the following assignments of recently appointed medical officers are ordered: First Lieut. William F. Lippitt, Jr., Asst. Surgeon, will report in person to the commanding officer, Ft. McPherson, Ga. First Lieut. Benjamin Brooke, Asst. Surgeon, will report in person to the commanding officer, Ft. Riley, Kan. First Lieut. Meritt W. Ireland, Asst. Surgeon, will proceed from Columbia City, Ind., to Jefferson Bks., Mo., and report in person for duty to the commanding officer of that post. First Lieut. George M. Wells, Asst. Surgeon, will proceed from Ell, Ind., to Columbus Bks., O., and report in person for duty to the commanding officer of that post. Par. 7, S. O. 115, A. G. O., May 20, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending May 23, 1891.

Surgeon Geo. A. Bright, detached from U. S. S. "Omaha," and granted three months' leave of absence.
P. A. Surgeon V. C. B. Means, detached from U. S. S. "Omaha" and granted three months' leave of absence.
Asst. Surgeon Jas. F. Keeney, ordered for examination preliminary to promotion to P. A. Surgeon.

The Journal of the American Medical Association

VOL. XVI.

CHICAGO, JUNE 6, 1891.

No. 23.

ORIGINAL ARTICLES.

THE CONSIDERATION AND CURE OF CHRONIC TUBERCULAR CONSUMPTION OF THE LUNGS.

*Read in the Section of Practice of Medicine and Physiology, at the
Forty-second Annual Meeting of the American Medical Association,
held at Washington, D. C., May, 1891.*

BY ASA F. PATTEE, A.M., M.D.,
OF BOSTON, MASS.

In the preparation of this paper I have endeavored to be as concise as possible consistent with clearness; I have employed the terms phthisis, tuberculosis and pulmonary consumption as expressing the same pathological condition.

The progressive tendency of the tubercle of phthisis is of a fibrous nature, or a leaning toward healing or health; becoming through this means a self-limiting condition. The direct reverse of the tubercle of cancerous and other inflammatory ulceration.

I have for many years maintained by theory, and shown by actual results, that pulmonary tuberculosis may be cured, even after extensive degeneration of lung tissue has taken place; provided the constitution has not become vitiated by disease or other causes, or its recuperative powers destroyed by old age.

We now find this assertion copiously substantiated by eminent authority. Given suitable handling, in all that the term implies, and the extent of the depredation will take care of itself; it will make little difference whether prognosis has limited the life of the patient to a certain number of weeks or months.

It is the cowardly attitude of settling down to palliative measures that has wrought the mischief in the past. Such means exclude all recuperative agents, and serve to deprive every organ of its normal activity in the performance of its functions, as a result favoring the destruction already going on.

This idea that a person must be doomed to die of phthisis because one of his parents were its victims seems now about to be thrown into the rubbish of the past, and the sooner this absurdity can be removed from the mind of the public the better.

GENERAL TREATMENT.

My thesis written in 1857 was entitled, *Pure Air, Pure Water, Cleanliness and Exercise*. Their importance in the prophylaxis and cure of disease.

From the time I commenced practice these agents have been my best allies. In my surgery, air, water and cleanliness have been my antiseptics, pure water doing for me what corrosive sublimate, iodoform, etc., have accomplished in the hands of others.

In 1862, I first read Chamber's Lectures on the Renewal of Life, and so impressed was I with the truth of his reasoning that I have kept that object in view in the treatment of disease in every form ever since. The number of cases of chronic pulmonary tuberculosis that have come into my hands for treatment are, according to my reckoning, about 3,000, exclusive of those I had in the United States Army. Every case shows me yet more plainly the folly of attempting to adopt a routine which shall be applicable to all tuberculous patients. The treatment of every patient must be a problem unto itself.

By no means is it essential for the same unfavorable elements to combine in order to bring about certain results. The susceptibility of the individual to certain conditions must be considered. We must meet every condition, physically, mentally and morally, and in this way regard his case as entirely distinct from any other.

While the various theories as to predisposing causes, hereditary tendencies, and the means of combating them have not embraced all the elements of success, still they have given us all the light we have had upon this dark subject, and so far as hygienic influences have been recognized they are deserving of our highest consideration.

Until the bacillus made its shadow upon the screen of our observations (whose office it seems to me should be regarded as that of a very lively interrogation point, rather than as a period to all future questionings), the trend of the past few years had been towards recognizing in Nature a powerful factor in the prevention and cure of consumption.

Let us not get bacilli mad! Cannot we have a case of pulmonary tuberculosis on our hands and not yet be able to find these little fellows;

the very recent knowledge of whose existence seems to have wrought a condition in our brains as disastrous as their presence is credited to produce in the lungs of our patients?

Let us not forget our modest days of small things, before bacilli were known, and thus carefully avoid the danger which now seems to be threatening of ignoring all other means of diagnosis in our frantic search for the revelations of the microscope.

Nor will we permit this to let us slight the premonitory warnings of the approach of this disease, and thus encourage the baneful tendency to dismiss, with some simple opiate, a slight cough, protracted cold, irritable throat, etc., because as yet the expectorations have failed to yield the little wriggler whose presence only shall determine the tuberculous condition.

If tuberculosis must owe its existence to this alone, then I shall maintain, at the expense of paradox, that he who would cure chronic pulmonary tuberculosis must begin the cure before he finds the disease in his patients.

Build up the general health of the consumptive so that his chemico-vitalizing function will be sufficient to destroy the bacilli. In fact, put every patient into such a degree of health that he shall be his own bacilli-killer.

Bacilli cannot exist in perfectly healthy lung tissue. It must become diseased before it can offer sufficient inducement for him to live and propagate in it, and upon its resumption of health the tenant vanishes.

HYGIENIC INFLUENCES.

A perfect familiarity with the daily life of our patient must be our first consideration. Our surroundings make us what we are, physically as well as morally and socially. Man is like the chameleon, every part of his nature partakes and is made up of his surroundings. "Show me your friends and I will tell you what you are." This is as true of the physical as of the moral man.

If our treatment could begin with the birth of the patient, in 99 per cent. we should have no tuberculosis to treat, no matter about the family history.

Fear is a powerful provocative to physical degeneration. Take the condition of the poor. It is not generally their immediate wants which cause the catastrophe. People who are habitually poor are not necessarily feeble, but those who have lost their wealth are the sufferers. Fear as to the immediate future for themselves or others; with this instinctive nervous shock the body shrinks, all the organic functions are disturbed. Especially is this true of the respiratory functions. Fear of any sort has a depressing effect upon the respiratory centre. This is as true of animals as of men. Anxiety is but a species of fear.

It is futile for us to shut our eyes to the reflex action which the mind throws upon the physiological powers. We see proofs of it every instant, yet dispute it, and call it unscientific. What are we striving to accomplish in our treatment of disease? Is it not our aim to coax, by all manner of means known to us, this vital principle called Life to tarry yet a little longer in its diseased encasement? Then give its presence a just recognition by attributing to it a capability both creative and destructive, a reality though intangible.

EXERCISE.

The various mechanical arrangements now in vogue for indoor exercise are generally to be commended. The patient must be imbued with the determination to get well. He must be made to understand that much depends upon himself. That he must exercise as well as eat. The exercise must be accumulative, doing a little more every day, and the nourishment must also be accumulative. The amount of exercise he can bear will depend upon the amount of strength-giving food he can assimilate, and vice versa.

RECREATION.

The recreations should be of a nature that will inspire an interest on the part of the invalid in their accomplishment. There should be an importance attached to them requiring some thought. The unemployed mind is a powerful depressant to the nervous forces. Let the daily walks and rides have some purpose, if nothing more than the performance of the domestic errands of the family. If he loves art and music his tastes should be gratified. There should be a moderate indulgence in out-of-door sports, as bicycling, ball, surf-bathing when allowable, horseback riding and skating. Our lady patients have their gymnastics, tricycle, horse-back riding and skating, and of great importance, their vocal gymnastics. This will expand the lungs and strengthen the pectoral and respiratory muscles. Being a pleasant recreation, and at the same time a most excellent means of bathing the air-cells with oxygen and teaching the vocal organs the proper performance of their functions. After a few weeks of judicious practice the dimensions of the chest will be found to have increased from four to five inches.

Practicing at the piano, needle-work or any employment which requires close application and necessitates contraction of the chest walls in its performance, should be forbidden.

DAILY CARE OF THE PATIENT.

Our phthisical invalid should have the constant attention of a well-trained nurse. His room must be sunny, with pleasant prospect from the windows. No stuffy furniture, no carpets, no fancy articles hanging or standing about, ready

upon their slightest agitation to disseminate the accumulated dust of stagnation and disease. If possible, the walls of the room should be painted. They can then be wiped off occasionally with some disinfectant, as borax water or Platt's chlorides. Place pine, spruce or fir boughs about the room and under the bed the patient occupies; this will impart to the atmosphere an agreeable odor, and has undoubtedly the effect of calming laryngo-bronchial irritation and diminishing the frequency of the cough. I am convinced of the benefit of breathing this air. It is also well to spray some agreeable antiseptic about the room, as essence of cinnamon, clove, gaultheria, eucalyptus, etc.

The bedstead should be of metal, having a fine wire spring, hair mattress and fine wool blankets; no draperies.

If possible, let the artificial lighting be of electricity, but if gas must be used, see that the burner is a proper one to consume all the gas as it is forced through. Avoid lighting or heating by kerosene oil; a kerosene lamp or heater consumes more oxygen than the patient does himself.

The temperature of the room should be equal, ranging from 68° to 70°, and in the damp and rainy days of summer it must be made dry by a grate fire or some other form of heating.

The underclothing of the patient should be of wool the year round, and changed every day. There is no necessity of encasing him in very thick, unyielding flannel; it seems rather to produce a weakening effect by preventing the free escape of the exhalations of the body; those which are loosely worn and of light weight and soft texture serve a better purpose.

The nurse must be able to manipulate the patient's body, rubbing, lightly pounding or patting and beating with a whisk broom. In beating the surface in this manner it has a direct stimulating effect upon the peripheral nerve-endings, and produces a vitalizing influence that cannot be obtained in any other way; for in the broom we have anywhere from 1,000 to 2,000 twigs of different sizes, and this beating of course produces as many different vibrations upon the nerves and nerve-centres, thereby increasing wonderfully the power of the skin in appropriating oxygen and nutrition.

The bowels should be kneaded; a most excellent process for obstinate constipation. Rubbing with flannel may at times replace the bath when the patient feels a repugnance to water. The limbs should always be rubbed towards the body. Rubbing with flannel charges the person with an amount of electricity which cannot be produced in any other way.

In women patients there must be absolute freedom from dragging skirts, tight bindings and garters. The dress must allow perfect liberty of action in chest and limbs. I do not object to

corsets if they are worn loose, if the patient insists that they are a support to her; in the place of injury, I think they are a benefit; but they must be worn loose enough to not interfere with the movements of the diaphragm. She should wear felt shoes, neither laced nor buttoned tight around the ankles; cold feet at night invariably follow the wearing of closely-buttoned boots during the day.

FOOD.

While pure air may be prescribed without limit, and the same sanitary surroundings are equally beneficial to all, yet when we come to the question of diet, we cannot prescribe in a general way; we must be guided by the likes and idiosyncracies of our patients. We may find one to thrive on pure milk and occasionally one who can take cod-liver oil with benefit, while the digestive organs of another will be thrown into a terrible state of disorder by these agents.

The patient must have regular times for eating solid food. It must be taken at least every four hours, and drinks between times, of milk, beef tea, aromatic teas, gruels, fruit juices, etc. Milk when well borne and assimilated is nourishing, strengthening, and fattening, and we have great occasion to be glad when we find it can be taken in large quantities and digested. Unless we can get milk that is fresh from the cow, the condensed milk without sugar is preferable to old milk.

Infusions of malt, when properly made, may be taken by nearly every one. And instead of undertaking the digestion of thick malt extracts a simple infusion like the following will be much better: Malt in coarse powder, 4 ounces. Water heated to about 86° F., 12 ounces. Macerate for four hours at a temperature of about 100° F. Then gradually raise it to about 130° for half an hour; strain this infusion with strong expression and add one grain of salicylic acid. This quantity can be taken every day; it can be flavored at any time by adding a drachm of hops, chamomile flowers, or any of the aromatic herbs. This will be found far superior to any of the thick malt extracts. I do not advocate the use of cod-liver oil; as a usual thing it will derange the stomach and prevent the patient from taking a due amount of suitable food. Cod-liver oil cannot supply the place of meat, bread and butter, but meat, bread and butter can more than supply the place of cod-liver oil.

Man being omnivorous, should have variety in his food. Juices of meat, and the fat of newly made butter and sweet cream. Also vegetables cooked with some good fat meat should form a part of his diet, but in very small quantities. The expressed juice of different kinds of berries, pineapple, etc., may also be partaken of. The consensus of opinion has been that meat is better the

longer it has been kept, but I contend that the sooner meat is eaten after it is slaughtered the more health and life-giving properties it has; the same is true of milk, the sooner it is drank after being drawn from the udder the better.

All food should be disintegrated when eaten with copious draughts of pure water or some agreeable aromatic tea. This I have always maintained, through the long-drawn misery of the dry food mania, at the expense of severe criticism from my professional brethren. The patient should consume at least three pints of water in the twenty-four hours, and more if necessary. We know that water forms three-fourths of our animal economy, that it enters in the same proportion into all animal life, hence consumptive patients must take a large amount of liquids. We also know that water has solvent powers, that it will often overcome the most obstinate constipation, that it is also a powerful medium for removing effete matter from the body, acting on the alimentary canal both mechanically and chemically by changing their atonic condition and enabling the absorption of nutritious food. The addition of one-third to one-half parts of pure water to milk has been more effectual in preventing the formation of curd than lime-water, and a mixture of equal parts of water and milk, or infusion of malt, will quench the thirst of phthisical patients, reduce the temperature, and have a quieting effect. Not unfrequently this can be borne better than either separately.

Ice-cream made from rich cream and milk may be eaten sparingly when the patient is feverish and craves cold food and drinks. The peptonized milk of Reed & Carnrick is good, and adds to the variety, also their beef peptonoids. Never allow the patient to eat yeast-made bread, it must be made from cream-of-tarter baking-powder, and twice baked, (*i.e.* lightly toasted).

The food must be varied; surprises in the way of unexpected dishes are a stimulant to the appetite. Fresh beef broiled, or scraped and eaten raw, or made into little pats and nicely seasoned and sparingly broiled over the coals; or, have the lean meat, free from fat and fibrous tissue, chopped in an enterprise chopper and to each pound of meat add one-fourth pound of fat breakfast bacon. This can be carefully broiled, salted and flavored to the taste and makes a most toothsome morsel. The patient rarely tires of it. He should eat from two to three pounds of this during the twenty-four hours.

Pig meat is not the worst kind to eat by any manner of means. I have no reference to the New England hog fed on slops, wallowing in filth, shut up in a seven by nine box without fresh air from birth to the day of slaughter. I refer to the much maligned western hog, that knows not what filth is, that from its earliest predecessors has had pure air and cleanliness, and been fed on

nuts, corn and wheat. Such meat is healthy and digestible. One or two teaspoonfuls of gluten may be included in the diet, cooked or uncooked, as suits the stomach. Fish can be partaken of once a week, also oyster and clam juice.

The patient should not be made to eat alone in his room; the pleasures attendant upon eating have much to do with results. Shut off from a life of activity, the feeling will come sooner or later according to his temperament, that he is a doomed man. There is always a tendency in the person suffering from any chronic ailment to foster the idea that he is of no account in the world because of his debility.

The object of the diet should be to nourish, strengthen and fatten. When we find our patient digesting his food, picking up in flesh and getting stronger every day, we have reason to believe his recovery is not only possible, but probable.

SLEEP.

"The death of each day's life,
Sore labor's bath,
Balm of hurt minds."

Sleep is but another form of food, and is not less essential than the food we take into our stomachs.

No matter what the disease, we know its malignancy has yielded when the periods of long, sound, natural sleep advance. As a prophylaxis, sleep ranks among the most important. Only through sleep can the nerve-centres relax and recuperation begin.

During the night of healthy sleep the scavengers of the body are working noiselessly with their implements of conveyance, preparing for the morrow's labors.

Darkness is the period of perfect rest. Until the human mind discovered the means of substituting by artificial light that of the sun, mankind retired with its declining rays. Children—of whom it has been said, their life, as it develops, give a fair representation of the lines of human progress—naturally seek repose at sunset. Nature herself at this time seems to be hushing all animated life to sleep upon her bosom.

How different is man under the influences of civilization! Insomnia and neurasthenia are the terrible beasts born of his enlightenment. Lashing their victim night and day until he would willingly offer his soul in exchange for the sound healthy sleep of the barbarian!

Insomnia is to-day the most familiar foe we meet, so prolific in its capacity that without exaggeration or fancy we can ascribe to it the common beginning of a vast part of our chronic ailments. It has come to have an *individuality*, and is no longer a symptom only. One of the common causes of this is the artificial light which is found in the majority of sleeping-rooms during the night, not only of lamps and gas, but the rays of

the electric light stream through our windows. Although the eyes may be closed, we are conscious of the changes in its flickering glare. The patient becomes accustomed to it and feels that he cannot have it excluded, and so we have added another to the "necessities of civilization."

Not the sleep to be had during the day, but the repose at night must be encouraged in the patient. Discipline will do much toward capturing this sly visitor, other things being equal.

The patient must retire early, he should not exercise his brain by reading or talking after seven o'clock. In summer he should be in bed for the night by eight o'clock, and in winter by seven o'clock. In the summer he should rise in the morning between five and six o'clock, and from seven to eight o'clock in the winter. The room should be of a proper temperature, so he experiences no chill in bathing and dressing.

The night-dress of the patient should be of sufficient thickness to protect the body and allow perfect freedom of movement and position without risk of chill. The flannel undervest worn during the day should be removed at night and one of lighter weight substituted. Bathing before retiring has a tendency to induce sleep. It should be accomplished in a manner the least calculated to task the patient's strength. If the temperature is normal, a wet cloth passed over the body and wrung out in fresh water may take the place of the bath; rub the skin well afterwards.

If the feet are cold they must be made warm and kept so; the means to be employed for this purpose are very numerous. Among the best are, the wrapping each foot in flannel separately, and the hot water bag (but the old-fashioned hot soap-stone is better). These are only palliative; for the removal of this condition there is nothing equal to manipulation done after the following: Begin at the nape of the neck, placing the ends of the first and second fingers firmly on each side of the spinal column, carrying them firmly and evenly downwards its whole length; repeat this several times. After this rub well the soft hollows in the ankles each side of the heels and around the joints. The patient will soon begin to feel the blood rushing into his feet, and ere many nights he will have the satisfaction of seeing a healthy circulation established in these parts.

Beef tea, beef peptonoids or some other light form of food should be served the patient directly on his awakening in the morning.

PURE AIR.

When practicable the person should be sent into a hilly district where he can have the advantages of a high and dry atmosphere. Avoid lakes and all bodies of fresh water. Otherwise as good air can be obtained in the city as in the country.

Boston is particularly fortunate in this respect. We should be grateful for the easterly winds, though they have given our town an unfavorable notoriety. Their salty breath cool and purify the atmosphere and render it a habitable city in the summer, even in the meanest localities.

I believe the bedrooms of the populace are generally tolerably well ventilated.

A certain class of enthusiasts upon the subject of ventilation have fallen into the error of overdoing the thing, or in doing it so badly that it becomes an injury, by allowing the air to come in stratas, making a draft upon the sleeper, whose powers of resistance are diminished.

It is a good plan to have the ventilation come through the windows of an adjoining room when possible. As the sleeping person does not require so much air as when he is up and around, it is not necessary that he should be deluged in a constantly changing current.

BATHING.

The superficial application of moisture to the body which the patient receives at night is not for cleanliness. He should have a daily bath, adding to every quart of water a teaspoonful of powdered borax or tablespoonful of aqua ammonia. Also use soap having an agreeable perfume. After he has been well wiped with a rough towel he should be anointed with nice fresh lard thoroughly beaten to a creamy consistency and perfumed to suit the fancy of the patient. Instead of the lard, petroleum, coca-butter, cottonseed oil, can be used, perfumed by the addition of some agreeable essential oil. The Turkish bath, shower-bath, cold pack, all have their place, and the hot spinal rubber bag for hæmoptysis.

MEDICAL TREATMENT.

It would be impossible for me, in a paper of this nature, to enter into details of treatment for every tubercular condition, so I have grouped in the following lists the remedies I use for the various requirements of the disease, employing them singly or in combination as occasion may require.

The first thing to be considered for our consumptive is his power of digestion and assimilation. His food must nourish and strengthen.

I find in the majority of cases it is beneficial to begin treatment by giving from one to five grains of calomel at night, followed in the morning by one or two drachms of sulphate of soda. This I should do whether the tongue be clear or foul, whether there be diarrhoea or constipation. Repeat for two or three nights as indicated; at the same time he must sip one-half pint of hot water slowly at least half an hour before meals. If there is tendency to constipation after the calomel and soda have passed off, give one or more of the following remedies:

FOR CONSTIPATION.

Sodium phosphate, sodium sulphate, magnesium sulphate, oleum ricini, rhamnus frangula, rhamnus purshiana, euonymus, atro-purpurius, juglandis cinera, sulphur. Appropriate doses after meals of one or more of these remedies, not only act as peristaltic stimulants, but they favor the process of nutrition; the patient gains in appetite and strength.

After the whole alimentary tract has been brought into the best condition possible, so that the patient has a good appetite and is digesting his food well, the following pill may be given: Zinci cyanidi, aurei cyanidi, zinci oxidi, thirty grains; extract cannabis indica, six grains; extract ignatia, three grains, glucose quantity sufficient to make thirty pills. Give one pill after the three principal meals.

Among the appetizers I have used the following infusions: Absinthium berberis, calumba, cannabis indica, benzoin odoriflrum, baldo, calaisaya bark, gentian and quassia.

For the general cachectic condition of the patient's body (after the condition of assimilation has been accomplished), I have employed on different occasions the following, using them singly or in combination, as occasion seemed to demand: Aurum et sodium chloridum, aurum cyanidum, calcium chloride, calcium iodide, calcium sulphuratum, cuprum arsenicum, sodium arsenicum, hydrargyri cyanidum, hydrargyri corrosivum chloridum, hydrargyri bin iodidum, sulphur, ferrum cyanidum, zinci cyanidum, potassii sulphuretum, nitro-muriatic acid, phosphoric acid, malic acid, creosote, guaiacol, terebene.

INFUSIONS.

Rhamnus purshiana, rhamnus frangula, leptandria, hydrastis, euonymus, populus tremuloides, pyrus mallus, pyrus Americana, stillingia sylvatica, rumex crispus, phytolacca decandra, alnus rubra, benbenis aquifolium.

FOR THE DIARRHŒA.

The following infusions may be given: Blackberry root, sumach bark, pulverized coto bark, logwood. Also tincture of ipecac, and bismuth subnitrate, bismuth salicylate, acidum carbolicum, salol, zinci oxidum, cuprum arsenitis, oleum ricini, and enemas of warm water with hydrastis.

I have also used the following powder a great deal: Zinci oxidi, two grains; sodii bicarb., five grains; pulverized coto bark, one grain, mix. This makes one powder. Take this amount after every meal. Also give cooling, healing drinks, as flax-seed tea, slippery elm, etc.

The hot stomach pad is of great benefit in all stomach and bowel diseases. It removes flatulency, pain, distension, etc., and is valuable in inducing sleep at night. It is made by taking

1. Eight thicknesses of thick cotton crash, 12 x 6 inches.

2. A cotton flannel binder, 12-14 inches wide, and long enough to go around the body, with tapes sewed on the ends to secure it.

3. A duplicate of the latter made of waterproof or mackintosh.

4. The same made of flannel.

The pad must be put into boiling salt water in proportion of one ounce to a pint, then wrung out and applied to the stomach and abdomen as hot as can be borne. Tie the flannel binder, the waterproof, and lastly the outside flannel tightly. When cold it must be removed, put through the hot water again and re-applied. This can be worn two or three hours every day after meals, or if much pain is present, it must be worn constantly. It will improve digestion and promote assimilation to a wonderful degree.

DIGESTIVE FERMENTS.

We have two animal ferments, pepsin and extractum pancreatis; our selection must be governed by the nature of the indigestion. Of the vegetable ferments we have a variety; among them are juice of the carica papaya (South American paw paw); asimina triola, juice of the unripe fruit; anassa satina (pineapple), juice of the ripe fruit; infusion of ficus carica (fig), drosera rotundifolia; musa sapientum (banana), juice of ripe fruit.

For the fever of the first stage I have found selections from the following to be all that were required, used either singly or combined, according to conditions: Norwood's tincture of veratrum viride, tinctures of aconite, gelsemium, lycopodium virginica, comicifuga, also antimoniæ et potassii tartras.

I find these give better results than the newer antipyretics, as acetanilid, antipyrin, etc.

Fever of the second stage: Salicylic acid, salicina, acetanilid, antipyrin, phenacetin, quinia hydra-bromate, salicylate of ammonia.

For the night sweats: Atropia sulphate, picrotoxin, malic acid, zinci oxidum, zinci cyanidum, tincture cocculus indicus, sage tea.

For the sore mouth and the follicular ulceration of the mouth and pharynx. Touch the ulcerated spots with a sulphate of copper crayon, and rinse the mouth with a solution of chlorate of potash of the strength of eight grains to the ounce of water, and one drachm of glycerine. (But a few spots should be treated at one time.) In the sore mouth where the mucous membrane looks red and shining, an infusion of rhus glabra or prinos verticillatus, or hydrastes, alnus rubra, and salix nigra may be used with glycerine, one drachm to the ounce. Rinse the mouth freely.

If the secretion of saliva is scanty, the addition of a vegetable acid to the infusion will be necessary. If profuse, add an alkali, as the bicarbonate of sodium or potassium.

For the cough. The general constitutional treatment with the mouth washes, gargles and inhalations, will be all that is necessary unless it should be so troublesome that the patient cannot sleep at night. In that case, give one-third of a grain of codeina, with one-twentieth of a grain of apomorphia hydrochlorate, at bed time. I give preference to the simple codeina to any of its salts. I find it works better.

For a loose cough: Nitrate of sanguinaria, one grain; sodii phos phus, one-half drachm, simple elixir, glycerine, of each two ounces; tincture phosphora, one drachm; mix and give from one-half to one teaspoonful every three hours, in an infusion of pine bark tea.

For asthmatic cough: Nitrate of sodium, nitro-glycerine, weak alcoholic tincture of gruelia robusta, inhalations of nitrate of potash paper.

For the intercostal neuralgia the following liniment will give great comfort and relief: Olei ricini, olei terebinthi, olei eucalypti, of each one ounce, camphor, two drachms, chloroformi, four drachms. Mix and apply morning and night, with long continued friction.

For inhalation: Guaiacol, styrone, olei eucalypti, of each two drachms; alcohol one ounce, chloroformi two drachms, mix.

This should be used with a perforated zinc inhaler, for fifteen minutes at a time, every two or three hours during the day. Or the following: Balsam tolu, balsam peru, balsam storax, olei eucalyptus, of each one ounce, alcohol twelve ounces.

Digest for six days and filter, add to this mixture one ounce of beech-wood creosote and one ounce of chloroform. Put fifteen drops on a perforated zinc inhaler and use fifteen minutes every two hours during the day.

Another good inhalant is cold infusion of prunus virginica, four ounces; oil of bitter almonds, two drops; hydrocyanic acid, dilute two drachms; chloroform, half a drachm.

Mix and inhale five minutes every two hours during the day, through a Laforme or similar inhaler.

SPECIFIC HYPODERMIC AND PARENCHYMATOUS TREATMENT.

Hydrargyri chloridi corrosivi, one grain, sodii chloridi, one-half ounce, aqua fervens, dist. four ounces. Mix and filter. Begin by giving five minims subcutaneously into the cellular tissues every day, increasing one minim a day until fifteen minims are reached: then go back to the five minims and increase as at first. I have used this for the last ten years in the various stages of chronic pulmonary consumption. I have also used the solution of chloride of gold and soda as recommended by Drs. Shurly and Gibbs, but I very much prefer this. There is no doubt in my mind but it has a direct effect upon the bacilli in the lungs.

This hypodermic injection can be used per rectum in doses of five drops in half an ounce of water, three times a day, increasing one drop a day until thirty drops have been reached. Then go back to the five drops and increase as before.

The rectum must be washed out with tepid salt water before each injection. Administered in this way it will be taken directly into the circulation unaltered.

The two methods can be alternated in any case where it is not feasible to give it either hypodermically or per rectum; commencing with ten drops and increasing up to thirty, and then go back to the original dose as before. This should be given directly after the three principal meals.

All vegetable remedies should be given in infusions when practicable, made from the fresh bark, leaves or roots, and to every pint of the infusion add one grain of salicylic acid and ten drops of chloroform. As the patient is about to drink it, let him put into every ounce one teaspoonful of glycerine.

The infusion should be made every day and drank cold.

Epidermic medication should also be practiced, using as a base either pure lard, coco butter, petrolatum, cod liver oil, or fresh butter, variously combined with resorcin, quinine, aromatic oils and resins.

I will close by giving one case which I had in February, 1883. The symptoms may, I think, be considered as typical, and the treatment shows in a general way my ideas of the manipulation of tuberculosis.

Miss Page, blonde, aged 21. Family history showed the father and mother to have died of tuberculosis, together with a brother and sister and several uncles and aunts on both sides of the house. She had been ailing for three months when I first saw her. Lost considerable flesh, was coughing morning and night. Sputa frothy, pulse 120, temperature 102° in the afternoon. Had slight hæmoptysis. Percussion showed slight dullness over the apex of left lung and rough respiration. There was intercostal neuralgia and general tenderness over the whole chest. Appetite poor, bowels constipated, urine scant, passing about one pint in the twenty-four hours, with specific gravity 1030. The skin was very dry and scurfy.

I began treatment by giving three grains of hydrargyri chloridimitate at night, in the morning two drachms of sulphate of soda in a pint of hot water, and one pint of spearmint tea before dinner and supper, and a borax bath in the middle of the afternoon to be followed by inunction made of four ounces of pure lard and one drachm of oil of bergamot, alternating this with an inunction of resorcin one drachm, dilute alcohol two drachms, petrolatum one ounce, oil of gaultharia one drachm. Mix and use as above.

I ordered a suppository at night made of iodoform twelve grains, coco butter three drachms, creosote and oil of cloves of each two drops. This amount makes twelve suppositories.

For inhalation, balsams of Peru and storax, oil of sassafras, of each one ounce, alcohol twelve ounces. Digest six days, filter and add one ounce of chloroform. Make a paper funnel and place in it a wad of absorbent cotton. Put from fifteen to twenty drops of this mixture into it and inhale five minutes every three hours. For the constipation, infusion of rhamnus purshiana, p. r. u.

I gave the following to the patient after meals as an antiseptic tonic :

Chloride of sodium four drachms, chloride of potassium two drachms, corrosive sublimate half a grain, water four ounces. Give one teaspoonful after the three principal meals, in two ounces of water or aromatic tea.

As an appetizer the following was all that could be wished : Extract cannabis indica six grains, extract ignatia two grains, salicin fifteen grains, phosphate of calcium half a drachm. Make into thirty tablets and take one thrice daily.

This not only created an excellent appetite, but kept the bronchial mucous membranes free from undue irritation.

For the high temperature she had the following : Tincture veratrum viride one drachm, hydrocyanic acid, dilute, one drachm, tincture prunus virginica, four ounces (made from the green bark, alcoholic strength one to six), put four ounces of the bark into sixteen ounces of the menstruum, give of this from twenty to thirty drops three times daily, in water, or an aromatic tea.

The diet was rare meat, not less than one pound in the twenty-four hours, and from that up to three pounds, condensed milk, bread made from cream of tartar baking powder, soft boiled rice, infusion of malt (made in the manner described), pineapple juice and orange juice, plenty of nice butter, fresh cream.

The principles of hygiene that I have formulated were fully carried out.

The patient was under my treatment for six months and perfectly recovered, and is now in good health.

A MIXTURE FOR HÆMOPTYSIS.

Bamberger is said to have approved of the following mixture in hæmoptysis :

- R. Turpentine, āā ʒj .
- Oil of sweet almonds, āā ʒj .
- Mucilage of acacia, āā ʒiv .
- Simple syrup, āā ʒiv .
- Distilled water, ʒv . m̄j .

One teaspoonful of this mixture may be given every half-hour.

INSTINCT IN ANIMALS AND INTELLIGENCE IN MAN CONTRASTED.

WITH AN EXAMINATION OF DARWIN'S DICTUM OF THE "MISSING LINK" AND LINNÆUS' DOGMA

"NATURA NON FACIT SALTUS," WITH A FEW ORIGINAL OBSERVATIONS

THEREON.

Read by Title in the Section of Medicine and Physiology at the Forty-Second Annual Meeting of the American Medical Association, held at Washington, D. C., May 5, 1894.

BY WILLIAM W. PARKER, M.D.,
OF RICHMOND, VA.

Instinct in animals is a matter of daily observation by every class of mind, and has always been a subject of great interest, nevertheless it seems still little understood. Writers in psychology are not yet agreed even upon its definition.

Ribot, a modern French writer, says it embraces "all those psychological phenomena occurring in animals, and all forms of mental activity, inferior to those in men." A German contemporary says "It is an act conformed to an end, but without consciousness of that end." Darwin's definition is more elaborate, but scarcely more definite; by reason of its length it is more open to criticism. He says "Instinct is an action which we otherwise would require experience to perform, when performed by an animal, more especially by a very young one, without any experience, and when performed by many individuals in the same way without their knowing for what purpose it is performed." This definition is certainly at fault when it claims that actions under the direction of instinct are performed "without knowing for what purpose they are performed." The dog that went once a week many miles to market alone certainly knew for what purpose he went there. The horses in Richmond that quicken their pace at midday when their heads are turned towards their stables, know why they prefer to go in that direction.

It may be impossible in a few set phrases, however carefully considered, to differentiate clearly human intelligence from what we call animal instinct. Their manifestations are so varied and numerous, and so interlocked, that like the lights and shadows in the landscape we cannot say where the line of separation really begins.

Why there should be such reluctance among modern writers in granting intelligence to animals is rather hard to say. The analogy in anatomy and physiology of man and the lower animals is very remarkable. The laws of digestion, assimilation, circulation, etc., are very much the same. We endeavor by vivisection to unravel the mysteries of digestion or indigestion in man.

In the brain of the animal we see analogy in structure; why may not there be analogy in function?

But to return. It seems to me sufficiently defi-

nite to say that "Instinct in the animals is a strictly limited knowledge or intelligence sufficient only first, for self preservation; second, for the propagation of the species; and third, to secure their usefulness to mankind."

SELF-PRESERVATION.

1. Of self-preservation. Love of life is an instinct universal in man and all animals. The she-bear beats her cubs and drives them up the tree at the sound of the dogs. The "danger cry" of the hen sends her chickens to shelter. Not to furnish the animal with sufficient intelligence to protect itself and its young would have been both a cruel and fatal mistake in the Creator. This point needs no further argument or illustration.

2. An equally fatal error would have been not to make provision for the propagation of the species. To do this requires far more intelligence in the animal than was needful for self-preservation. What man with his teeth and feet can build a bird's nest? Where is the man who can with his hands construct the delicate cells of the honey bee? or spin the attenuated spider's line.

How each cell is measured so that all its sides and angles are equal. What foreknowledge in the squirrel to provide in summer for the wants of winter, and yet how indispensable this knowledge.

There is no end of illustrations in this line, familiar to all who think at all. But let it be remembered that no bird can build for another. Each bee must work in its own hive.

How could the animal kingdom be useful to man without first, a good memory; second, a knowledge of persons; and third, some knowledge of property, but all limited. I think much of the remarkable ability of the horse and other animals to find their way home is due to memory.

But this does not meet every case. Some years ago, I visited a patient six miles from the city; there was a private pathway leading across a field cutting off a mile to the house, shown me by the messenger; it was winter, and the path could be very well seen. Five years after I visited the same patient in the summer; the way was lined on either side by high grass and weeds so that it was impossible to see the path. I was riding the same horse, and I looked hopelessly for the path, but the moment I got opposite to it the horse darted from the middle of the road and struck the path exactly. I could not see it till I got some distance in the woods, and supposed he had made a mistake. Here was a mathematical exactness, marvelous and incomprehensible; it was as exact as the magnet. Can there be any of this magnetic power in animals in regard to the cardinal points? guiding them with unerring certainty? What philosophy will solve this problem? And yet how necessary this exactness. If

the bird, five miles from its nest, did not know its exact locality, how could it ever get the information? There must be no uncertainty here, the least deviation would be fatal to the bird and its young. This knowledge is impossible to man; he, however, can inquire the way when lost. The bird must know certainly, or his creation is a failure. So doth God work! We all have daily illustration how the horse's memory is exercised here in the city; if you visit a patient in the morning and have to pass the same house a dozen times the same day, he will wish to stop every time. This is memory without reason, a low form of intelligence.

An equally important factor in the value of the animal to man is his recollection of persons; the dog knows every one in the family, children and servants, knows them day or night, knows their names and often their voices, otherwise he would be of no value as a guard. He would be worse than useless, he would be dangerous.

3. The animal, to be useful to man, must also have some knowledge of property. I had once a very clever dog. I have seen him kill three moccasin snakes in ten minutes; he would take them by the middle, shake them violently, drop them, pick them up again and shake them until they were dead; to do this successfully and safely required great dexterity. He seemed to know as well as I did that the bite would be fatal and hence he used the greatest precaution. I one day threw an old basket up a tree and it lodged there. I tried for some time with rocks and sticks to dislodge it but without success; this dog was with me; he remained under the tree all night and till the afternoon of the next day, fasting and guarding my property.

The dog will take the market basket home and guard it from robbery, but to show the distinction between instinct and reason, if you put rocks and sticks into it instead of beans and beefsteak he will carry it to the cook all the same.

We all know that the shepherd dog knows his master's sheep, and knows if one is missing, and he will protect them with his own life. Is not this "knowledge of property?"

Dogs are very much attached to their homes and will make journeys of hundreds of miles to return to them, and by ways that they never traveled before. Though carried on the cars 300 miles they will return, but not by the railway track.

SOME REMARKABLE CASES OF INTELLIGENCE IN ANIMALS.

Mr. Locke, in his essay on the Human Understanding, gives the case of a parrot owned by a Spaniard in a seaport town in South America, who said to her master, "What are all these officers doing here?" The company was startled, and some one replied, "and what are you doing

here?" The parrot said, "I mind chickens," and at once began to cluck like a hen.

A gentleman was once driving into the country and his horse suddenly stopped at a blacksmith shop; his master said, "What is the matter with you, Tom?" and got for answer the uplifted hind foot, a sudden shake and the rattle of a loose shoe.

We had a parrot who, when he stole preserves and heard my mother's footstep on the stairway, would fly to the top of the bed post and begin to cry out with fear before accused of the theft. He was fond of musical sounds, and would take small pebbles, put them into a saucer and toss them up to hear them jingle.

I have a cat that has been in the family for eight or nine years, the only cat I ever fancied. She has three methods of getting into my chamber in the morning, and she always pursues them in regular order, the simplest first, and the most complex last. First, to cry at the door, then to scratch; second, to go back three or four feet and throw herself violently against the door. When this fails she gets out on the front porch where, by opening the slats to the blinds, she can see me in bed, and then she rattles or scratches the blinds to attract my attention. Here is reason, beyond question. I was at a loss at one time to account for her second method, but I think she got this idea from seeing the children chasing each other from room to room in play, and when those inside were holding the door, those without would run against it and push with all their might to get in. The third and last way to enter was due to the fact that the cat had often in summertime, when my window was open, been in the habit of entering my room through it. When a child is badly hurt and cries aloud this cat will run with the other children and get up into the lap of the injured child in apparent sympathy.

Dogs know when they do well and when they do ill; they like praise and dislike censure.

We have all seen the wonderful effects of careful training in some animals; this knowledge is secured by imitation. A child of one year can make great progress in this line.

It presupposes a very little knowledge.

OPINION OF SOME DIVINES OF THE LAST CENTURY.

The idea that the lower animals will be resurrected, as was insisted by many distinguished divines of the last century, is not tenable. We may fairly suppose that animals possess no power of introspection, retrospection, or antispection, if I may coin a word, or anticipation of the future. I use these expressions in their broadest sense. This knowledge would require "abstraction," a power not belonging to animals, as is generally agreed.

IDENTITY.

Can we suppose that the animal has any idea

of identity? I think not. Identity is arrived at by a review of the past, a tracing of one's history backwards link by link, to childhood, and a capacity to join these links, and show their congruity resulting in what we call consciousness. We cannot concede this power to brutes.

INSANITY IN ANIMALS.

Another new question, perhaps, is this: can the animal become insane? I think not, as insanity is the breaking of the chain of identity. If the animal does not have it of course he cannot break it. When broken in man we say he has "lost his mind." He has broken the link that binds him to the past. He has lost his identity and by consequence his consciousness. I use this word in its broadest sense.

Rabies in the animal bitten by a dog is not, pathologically, insanity. It is a blood poison leading always and speedily to death; in the dog himself it is a specific disease not at all analogous to insanity in man.

It is singular how opposed some people are to granting even limited reason to animals. But Job allowed them this in his day. He says "God deprived the ostrich of knowledge and understanding, and hence she foolishly laid her eggs in the sand and the foot of man and beast will crush them." The knowledge of animals to that of man is as zero. It is like the knowledge of A B C to that of the English language. No animal could ever understand one of the simplest axioms in mathematics, which might be said to be below the plane of reason, as they do not need reason for their acceptance. Training of the most sagacious animals through ten generations could not bring one of them up to this point. They have no inventive power outside of their own necessities. None could be made to comprehend the principles of the simplest art or science. The dog and horse of a thousand years ago are the dog and horse of to-day.

This knowledge is stationary; when brought in contrast with man's it seems as nothing; a drop of water to the ocean, a grain of sand to the endless beach, its elements are memory and imitation. There is one exception, and that is their knowledge of places. This is marvelous, as before said, but without this special endowment the whole race would perish with the first generation. Here is wisdom and goodness!

The dog, the horse and the cow are man's three best friends. The dog is the farmer's "night watchman." No bad treatment or change in fortune in his master alienates his affection. A medical friend once said to me, in this connection, I have more faith in my dog than in many men. What in these days of "condensed milk" would the neglected infant do without the cow? The goat's milk is no substitute, as we all know. While fashionable women are turning their backs

upon their own offspring, willing that they should perish rather than torego the theatre and ball room, the faithful cow is the only recourse. She saves thousands of human lives annually. The absence of milk for one day in London would bring more distress than the failure of Baring & Bro., and a half dozen other big houses.

The horse, "whose neck is clothed with thunder," who mocketh at fear and "smelleth the battle afar off, the thunder of the captains and the shouting," is guided by the whistling lad in the fresh furrow and the little child leads him to the watering.

Having, as we think, defined the limits of animal intelligence, let us endeavor to get an idea of man's mental capacities, and see if there is one or many links between the two. For this purpose I propose a new method of analyzing the human mind or classifying its capacities, or, if you please, giving its dietetics, the food on which it feeds, in which ample place will be found for its powers of imagination, etc. For simplicity it may be regarded as a trinity, but not the trichotomy of the Egyptians and Greeks. The modern theory of Sir William Hamilton is far too complex. In proposing to be original I hope I show no want of respect for learned authority. Too much subservency to authority blocks progress in all art and science as well as in philosophy. It is proposed in this paper to consider the mind, 1st. In its moral perceptions or its power of comprehending moral truths.

2nd. Its immoral perceptions or passions.

3rd. Its cosmic powers or conceptions of the natural world, the Cosmos of Humboldt, including, if you please, all physical science. It is very natural that this last division of the subject, from its vastness, should have been most attractive to mankind. It was visible, tangible, always and everywhere. It could not escape us. The fool as well as the wise man had eyes and hands and must needs use them. But one of the Greek philosophers had the true idea when he said the greatest wisdom was, "Nothe se auton." (Know thyself.)

Moral philosophy is more important than natural philosophy or science. Man's happiness is more involved in this Greek aphorism than in all La Plaiçe's and Newton's discoveries.

The wonderful dome that we carry on our shoulders poised so delicately, is marvelous beyond description and the most marvelous and valuable endowment are its moral perceptions. In its study is involved man's highest happiness. A man must know very little of himself who is disposed to question this proposition. Not only is man's individual happiness involved in it, but the happiness of the entire race.

It is a curious fact that there is no necessary connection between morals or goodness, and intelligence. A man may be a Bacon in learning,

and a debauchee in practice, or a Joseph in purity and entirely ignorant of even the simplest rudiments of philosophy.

Attempts were made by the Greeks, especially, to define these moral principles, and direct them into right channels, but they always remind me of men groping in the dark, or of one looking through a low power microscope in search of germs, to find only a mass of debris; the closer he looks the greater seems the confusion. How vast is the field of morals! It includes the study of the laws of truth, justice, love, faith and all their various products, as mercy, meekness, patience, gentleness, forbearance, honesty, etc. How beautiful is the search for truth in a great criminal case: Astute lawyers, sheriffs and detectives follow a small thread, attenuated as a spider's web, through fens and fogs, over valleys and mountains, over seas and oceans, in the heat of summer and the cold of winter, holding on to this delicate thread till at last it becomes a cord, a chain that binds the strong man in prison walls.

What a golden shield justice throws over innocence when attacked by lion-hearted tyranny, or the viper tongue of slander! With what a steady hand does she hold the scales. What a deaf ear she turns to flattery and fame. She heareth the cry of the prisoner and breaks his bands asunder. The cry of the troubled widow, and gives "beauty for ashes, the oil of joy for mourning."

But what shall we say of love? Though I should "speak with all the tongues of men and angels," I could not describe her. The faith that removes mountains is not equal to her; the benevolence (so-called) that would give all its goods to feed the poor, is not her equal. In honor she "preferreth another, she hopeth all things, endureth all things," seeketh not her own, thinketh no evil, rejoiceth in the truth. What more shall we say of her. Love would open every jail and penitentiary, dry every tear, clothe every ragged child, heal every broken heart.

But what shall we say of faith? Faith in your doctrines, faith in your friends, faith in your God. It binds men together with hooks of steel. It has laid delicate women calmly upon the block, and tied them joyfully to the burning stake. But what says the great philosopher, Paul, of it. "Through faith we understand the worlds were framed by the word of God." "Without faith it is impossible to please God." "Faith subdues kingdoms, stops the mouths of lions, quenches the violence of fire." Men out of weakness are made strong, wax valiant in fight, and turn to flight the army of the aliens. The highest compliment ever paid to man by great authority was to men of great faith, of whom it was said, "The world was not worthy." There can be no peace without it, no commercial progress, no domestic happiness, society would go to pieces without it and chaos reign supreme; what need, then, for

the exhortation, "have faith in man and have faith in God." The man who has no faith in the former has no faith in the latter. This is not generally admitted, but can be logically proved. In morals, as in nature, there are grand massive truths as well as microscopic beauties.

Even the Christian world has little idea to what delicate refinement these great principles, Faith, Justice, Love, Truth, the four corner stones of God's great temple, can attain. They can be seen in the look, the tear drop, the tender tone, the sigh, in the infant's tottering step, and the widow's dying smile. They are like four great rainbows, spanning the Heavens, and beckoning us to the skies. And, better still, they are progressive, so that by steady and persistent effort we may attain the dream of the poet and have

"A heart in every thought renewed
And full of love divine,
Perfect, and right, and pure, and good,
A copy, Lord, of thine."

It is pleasant—to change the figure—to contemplate the final triumph of these four sturdy warriors, of God's good Providence, as they march forward to the conquest of the world. Do we not feel the conflict within us to-day in every man, the "war among the members?" Volumes have been and many more volumes will be written on this branch of my subject, but I must turn to the consideration of the second part, to-wit: the immoral perceptions and passions of the mind. Alas! what a foul nest of foul birds! what a den of fierce wild beasts! The great apostle of the Gentiles sums them up thus; adultery, fornication, uncleanness, lasciviousness, idolatry, witchcraft, hatred, variances, emulations, wrath, strife, seditions, heresies, envyings, drunkenness, revellings and such like. Seventeen indictments. Of felony, alas! how many misdemeanors! man's charges against his brother, aye, against himself, marvellous honesty! There may be no witchcraft in these days, but there are watered-stocks, futures, and trusts worse than witchcraft.

Suppose it were heralded over the land to-morrow that the people of Paris had become so debauched that no boy under fourteen years could venture from home at night except with a gendarme by his side, without danger of assassination. What horror, what indignation, would fill every man's breast, and yet it has become so well known that it causes no surprise, even in this age of boasted Christian civilization, that no girl, however pure and spotless, can go out at night alone, without danger of an assault, everywhere regarded in the Bible as worse than murder. It will be noticed that of the seventeen felonies above enumerated, this crime stands at the head of the list, while murder is put near the foot. This classification is quite usual in the Bible. He who knew the human heart better

than we ourselves, said, "Let him that is without sin cast the first stone."

Unfortunately for man, he cannot sin without consent, and hence he is responsible. It has been proven that some of the bad pleasures of man cannot be enjoyed without intelligent consent. Animals cannot sin because they have no moral nature, and consequently cannot be immoral, in any sense. The shame sometimes exhibited arises from fear of remembered punishment by their masters. Here there is a bridgeless chasm between man and brute. These human passions are said to be instinct, but while that is true in one sense, yet, as before said, they are intelligent and under the control of a healthy will, and are generally exercised, strange to say, under the protest of conscience, when enlightened. How is it possible to explain this strange incongruity? It finds no analogy in the war among the elements in chemistry. Where is the philosopher who will give us the solution?

But I must hasten on to the third proposition, to-wit: The cosmic perception, or the mathematics of the mind and of nature's laws. While the study of nature has been, as said before, always more attractive than the study of morals, it is nevertheless not so abstract. Nature is tangible, visible, some of her laws are written upon the stones and others in the stars. We find metrical motions in the one and methodical "measures" in the other. To man is given the measure of all the spheres, in the *circle*, without this there would be no astronomy. The "span" is the unit of measure, the parted fingers the idea of "dividers" and angles, in mathematics. Without the eye or without the hand there would be no art, refined or gross, but without either, what worlds of beauty were built by Milton. We degrade ourselves when we exalt the natural above the moral. Nature gives no help to morals, virtue seems not a child of earth.

But let me hasten to the main object I have in view, to-wit, the contrast between animal and human intelligence. There can really be no comparison. It is a matter of contrasts of antithesis. In the animal, intelligence is limited; in man unlimited.

In the animal, intelligence is X; in man the great complex problem of mathematics. In the animal, intelligence is a drop; in man the ocean. In the animal it is a single thread; in man the bolt of cloth. In the animal it is only one stone; in man the great edifice. In the animal there is no identity; in man perfect identity. In the animal no morality; in man it is the highest quality. In the animal satisfaction with the world; in man dissatisfaction. In the animal congruity; in the animal incongruity. In the animal no progression; in man endless progression. In the animal insanity is impossible; in man quite common. We are surprised at the tricks of animals and infants

simply because we did not expect any intelligence.

To say, therefore, with Darwin, that there is one link or two "missing links" between animal and human intelligence, is to speak without reason.

Man's highest qualities or perceptions have no existence even in embryo in animals. You cannot weld wood and iron, the chain must be of the same material. A few changes in the anatomy of the chimpanzee would make him a man in form, but what changes in his capacities, would make him man's equal in intellect. One is the intelligent master, the other the ignorant slave.

A block of wood may be of the same shape as a block of marble; a piece of glass, of the form of a diamond; the form of an object has nothing to do with its quality or character.

Other animals besides the chimpanzee have similar organs to those of men; this is true of birds also; the pattern may be the same, but the material without one item of resemblance; one might be of brocade, the other of paper.

Linnaeus' dogma, "*Natura non facit saltus*," may be true of the vegetable kingdom, but finds one notable exception in the animal kingdom. I do not think that it will ever be proved that any fortuitous concurrence of atoms, or arrangement of cells, can produce moral intelligence.

It is not proposed in this paper to discuss its origin, but I would respectfully call attention to the Psalmist's reasonable answers to his own three pertinent questions, to-wit: He that formeth the eye, shall he not see? He that planteth the ear, shall he not hear? He that *taught man knowledge*, shall not he know?

But to conclude: I have endeavored to show that animal intelligence is zero; to multiply it by itself you have zero.

I have also said it is strictly limited, and if multiplied by itself the result is limited. But the powers of the human mind are unlimited; not one, not a thousand links can bridge the chasm between the intelligence of animals and the intelligence of man.

TWO INTERESTING CASES OF FORCED RESPIRATION.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May 5-8, 1891.

BY GEORGE E. FELL, M.D.,
OF BUFFALO, N. Y.

Sunday morning, March 1, at 3:20 A.M., I was called to the residence of Dr. Harrington, on Franklin St., and there found a young lady who had taken a large dose of morphine. At 3 A.M., Mr. Harrington, Sr., had noticed stertorous breathing. He arose, looked at the patient, but concluded that it was nothing more than a very

deep slumber. The condition continuing, however, he called Dr. Harrington, who examined the patient, finding her in a comatose condition, cyanotic; pupils markedly contracted; and a bottle of morphia upon the table. She had written two or three letters which clearly indicated the cause of the trouble.

I immediately proceeded to forced respiration with the face-mask, which resulted in overcoming the cyanosis and producing an improvement in the heart action. We continued forced respiration with the face-mask until 6:30 A.M., when it was observed that the cyanosis was again increasing, and the condition of the patient growing more and more desperate. No evidences of consciousness were present. By hollowing into the ear, ocular reflexes were noticed in a contracting of the orbicularis muscles. There appeared to be no hope of recovery at this time.

With Dr. Harrington's assistance we made tracheotomy, and inserted the tracheotomy tube, as arranged for forced respiration, into the trachea. Connection was then made with the apparatus, and forced respiration kept up. The improvement on the employment of forced respiration per tracheotomy, over that produced by the face-mask, was evident. The chest movements were greater, and the results were more satisfactory in many respects. However, of so serious a nature was the condition of the patient at this time that not one present expected other than a fatal termination. No pulse existed at either wrist; auscultation could detect no heart movement, either on the part of Dr. Harrington, myself, or the students present. Two conditions, however, appeared to indicate that life was not extinct. The pupils continued contracted, and cyanosis did not supervene. The glassy stare of the eyes was present, and outside of the two favorable indications mentioned, it appeared that death could not be far off. At this point Dr. Harrington's father made the remark that if this young lady was made to live, it would be indeed a "miracle." However, I kept up the forced respiration, saying that I would do so a little while longer, "just for the fun of it." In a short time auscultation on the part of Dr. Harrington gave us the satisfactory information that the heart was beating. In the course of a few hours these reflexes were more and more marked, and consciousness supervened. Forced respiration was continued through the forenoon, and until quite late in the afternoon, making some twelve to fourteen hours of continual forced respiration before the patient could be allowed to breathe for herself.

She has made a good recovery.

In this case artificial respiration would at no time have been of any avail to the patient.

Oxygen gas used.

Sunday, March 15, at 11:30 A.M., I was called

to attend Joseph Altieri. A prescription containing phenacetin, morphine and cocaine, in small quantity, had been prescribed by the attending physician, for neuralgia of the stomach. The patient had taken repeated doses, without regard to instructions upon the prescription, until a large poisonous dose of these very dangerous drugs had been taken. At 11:30 A.M., forced respiration with the face-mask was commenced, and quickly overcame the marked cyanosis, which was intensified, undoubtedly, by the phenacetin. With the face-mask forced respiration was kept up all the afternoon, the patient at times becoming conscious. The cyanotic condition seemed, however, to increase, owing to the base of the tongue falling back and occluding the larynx. A ligature was placed through the tongue, and the organ was pulled well up, with the result that the lungs were more readily inflated.

In this case oxygen gas was administered, in connection with the forced respiration apparatus, it being supplied in greater or less quantities, as seemed to be desirable. At times the amount of air passing to the stomach and the bowels was so great as to markedly distend them, thus interfering to a certain extent with the inflation of the lungs by the forced respiration, and indicating one of the difficulties to be met with in forced respiration with face-mask. In the afternoon the patient became comatose, and responded very little to the respiratory work. During the evening it was evident that the patient was not progressing satisfactorily, the influence of the poisons being peculiar in their action, there not appearing to be any elimination of the drugs—although the catheter was used as often as was necessary, and the antidotes which seemed to be indicated, and stimulants, such as digitalis and alcohol, injected hypodermically. At 10 P.M., Sunday night, I made tracheotomy, and forced respiration was then kept up by the direct method. The result, as in the former case, indicated the very great readiness with which the method could be used in the direct inflation of the lungs, and the patient was apparently holding his own. I left for home at 11 P.M., trusting that the patient would be in good condition in the morning. An army of students was present to assist in the work of respiration, and with Dr. Harrington they kept faithfully at work through the night, until 5:30 in the morning. At this time the patient was breathing with comparative ease, and the prospects looked encouraging. However, a spasmodic contraction of the stomach occurred; its contents were ejected with force. Every effort was made to prevent any of the vomited matter from passing into the lungs, but the spasm resulted, however, in the ceasing of the action of the heart; and the labor of eighteen hours was thrown away.

The necessity for something other than manual labor in the forcing of a column of air into the lungs, was strongly demonstrated in this case. Although there were plenty of persons present, what with the students and the relatives of the patient, who performed all the labor required, no one who has not witnessed a case of forced respiration can really appreciate the amount of energy expended in respiring for a human being, be it even so easy comparatively as by the method used in forced respiration.

This is the first extended case in which oxygen gas was administered in conjunction with the forced respiration. The results were satisfactory, but the odds against which we were fighting—the combination of deadly drugs which had been taken—were too much for even an expectation that success would crown our efforts. With morphia alone in large quantity, I believe the patient would have been saved.

But these cases have demonstrated again all that has been claimed heretofore as to the value of forced respiration; and I repeat that the physician who has not seen the results of forced respiration, cannot conceive, even with his knowledge of physiology, its value in the resuscitation of human beings in asphyxia, generally.

TUBERCULIN.

ITS VALUE AS A SCIENTIFIC DISCOVERY, APART FROM ITS THERAPEUTIC IMPORTANCE; TOGETHER WITH A CONSIDERATION OF THE MOST RATIONAL MODE OF EMPLOYING THE PRINCIPLE INVOLVED IN IT.

Read in the Section of Practice of Medicine and Physiology, at the Forty second Annual Meeting of the American Medical Association, held at Washington, D. C., May 5-8, 1891.

BY S. K. JACKSON, M.D.,
OF NORFOLK, VA.

Whatever may be the estimate formed of Koch's lymph—whether or not it shall be determined to have a curative influence in the class of diseases for which it has been proposed, it must be recognized as of incalculable value in illustrating, or rather, I should say, in demonstrating, the truth of one of the most important principles of biological science.

It is running but little risk to prophesy that this generalization will, before long, revolutionize the practice of medicine, by compelling a resort to Nature's mode of curing disease; that is, by using the means that Nature employs for inhibiting or arresting the life-processes of organisms which are known to be the causative factors in the production of certain diseases.

While recent clinical records have caused a great distrust in Koch's method as a safe remedy

in pulmonary tuberculosis, no one has doubted, or questioned, its power of producing a rapid necrosis of the diseased tissue. The *modus operandi* by which this necrosis is effected, is the important physiological and philosophical fact which invests it with the value which we now propose to consider; and if itself should not prove to be the efficient curative agent for which we have been looking, it furnishes a most valuable suggestion for the treatment of this most refractory condition, and confirms the theory which was first enunciated by me some twelve years ago, and upon which is based the practice which I have pursued ever since, and with most remarkable results.

If tuberculosis were a self-limiting condition, and conferred an immunity from a second attack, then Koch's lymph would be of inestimable value as a prophylactic, and second only to vaccination as a blessing to the human race. But as such is not the case, it must, for the present at least, be relegated to its position as a scientific fact, without the practical value it was at first supposed to possess, so far as is known at this time.

Let us, for a moment, consider the nature of Koch's remedy, and see how far it conforms to the biological law to which I have alluded.

It is a poison formed as a consequence of the life-processes of the bacillus tuberculosis, preserved in glycerine to prevent further decomposition. In other words, it is the effete excretory product of the microorganism causing tuberculosis employed for the purpose of inhibiting its life processes, and thereby arresting its work of destruction, on the principle, or in accordance with the law, that "no organism can live in its own excreta."

I acknowledge that this is not the universally accepted idea concerning it, for Dr. Solis Cohen, in *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, xvi. 11, p. 370, speaks of it as the product "of a mutual reaction of the bacillus and the tissue, dissolved in glycerine, and by the formation of which the microbes are deprived of food and starve to death." This ignores the poisonous effects upon the microbes.

That we may be sure of giving a fair interpretation of it, let us refer to Koch's own account of its nature and *modus operandi*, and use his own words.

In his November paper, Koch gives the following explanation of the process: "The tubercle bacilli, produced when growing in living tissue, the same as in artificial cultivation, contain certain substances which variously and notably unfavorably influence living elements in their vicinity. Among these is a substance which, in a certain degree of concentration, kills or so alters living protoplasm, that it passes into a condition that Weigert describes as a coagulation necrosis. In tissue thus become necrotic the bacillus finds

such unfavorable conditions of nourishment that it can grow no more, and sometimes dies." Or as expressed in McDill's translation of Koch's January paper: "The bacillus then finds such unfavorable conditions of nutrition that it is unable to keep on growing, and under certain circumstances even dies off." That he considered the microbe effectually disabled, if not killed, is evident from the closing words of his August paper. He says: "I am only able to draw one conclusion from these researches, viz.: the possibility which exists from this way of paralyzing absolutely the action of the microbes in the animal."

Were it not for testimony which he subsequently furnished, we might suppose that he had changed his mind by the time his November paper was published; in this he says "The necessary histological investigations are not yet complete; but this much is certain, that there is no question of a destruction of the tubercle bacilli in the tissues, but that only that the tissue enclosing the tubercle bacilli is affected by the remedy."

We might be in doubt as to the meaning of this faulty English, were it not for the following emphatic declaration: "To recapitulate, the remedy does not kill the tubercle bacilli, but the tuberculous tissue, and this gives us clearly and definitely the limit that bounds the action of the remedy."

It is difficult to reconcile this statement (which may be attributed to incomplete histological research) with the following: "As a rule, the number of the bacilli decreased only when the expectoration began to present a mucous appearance. They then entirely disappeared, but were again observed occasionally until expectoration completely ceased."

This positive assertion is worth more than mere speculation, and leaves us in no doubt as to the death of the bacillus.

In reference to this point Dr. Ernest Laplace remarks (*Times and Register*, January 17, 1891): "Koch has determined that the treatment does not destroy the bacillus, the seed of the disease. What is destroyed is that which has developed from the tissues under the irritation of the bacillus. If the remedy only did this, Koch's object would not be reached." And further: "There is one means left for curing the tuberculous process; that is, that the lymph should so act upon the system as to render it unsuited to let the bacilli of tuberculosis develop in it." "In other words, Koch hopes that the remedy will confer immunity against tuberculosis in man, as he says it does in the guinea pig." And further: "We have all reasons to surmise that the lymph is directly or indirectly the result of cultures of the bacillus tuberculosis."

From these extracts from Koch's several papers it is evident that he considered this substance,

which is the result of the life-processes of the bacilli (their excreta), as furnishing a medium unfavorable to their nutrition, and even, sometimes, causing them to die. This conclusion, it will be seen, corresponds precisely with the law enunciated by me in the year 1879.

In my report on Advances in Hygiene, etc. (Trans. of Medical Society of Virginia, 1879, p. 56), occur these words: "It is not wholly for want of pabulum that it dies, but it is actually destroyed by the products of the decomposition, whatever be the products, etc." In a foot-note I claim that this furnishes "an additional indication for the employment of ammonia in the treatment of typhoid fever, not only to restore the nitrogenous waste, etc., but also to saturate the system with what the organism producing the disease is known to exhale, and thereby diminishing or destroying its vitality." And further, on page 72, in speaking of the gaseous products of putrefaction and fermentation, I say: "These gases may, if the air be sufficiently saturated with them, arrest the decomposition of which they are the result, by destroying the life of the organism, on the principle stated, viz.: that life cannot be sustained in its own excretions."

Again, in my report on Advances in Practice to the Medical Society of Virginia in 1883, published in the Transactions of that year, p. 66, occurs this passage, p. 75: "If the theory, first enunciated by me, as far as I know, at our Alexandria meeting (in 1879), be a law, this may furnish us with a guide in the selection of our germicides. If it be a law that 'no organism can live in the effete products of its own life, in its own excreta,' then the most rational means of destroying it, would be to saturate it with the resulting products of its vital processes; for, as has been shown, these products become poisons and arrest the growth and development of the organism which generated them, and finally cause their death." Then follow some illustrations of this principle, *e. g.*, the effects of carbonic acid on the organism producing fermentation—of sulphuretted hydrogen, of ammoniacal gas, etc.

Again, this principle is further insisted on in a paper on "The Treatment of Typhoid Fever," read before the American Medical Association (Washington meeting), in 1884, in which paper, published in THE JOURNAL of August 16, 1884, p. 183, occurs this passage:

"In a paper recently read before the Virginia State Medical Society, I have contended that we are furnished with a key to the selection of germicides by a law which, as far as I know, I have been the first to enunciate. I claim that it is a law that no organism can live in its own excreta, in the products of its own vital processes. When carbonic acid gas is the excretory product, how certainly does carbonic acid destroy the life that produced it. If alcohol be the product of

the life-process, what better agent have we for arresting that process than alcohol itself? and how generally is it used for that purpose! If sulphuretted hydrogen be the exhaled excretion, all acknowledge the efficacy of sulphur and its compounds in arresting the decomposition giving rise to it. So also, if ammonia be the result of the vital processes of an organism, as is claimed in the case of typhoid fever, then by this law, we have a right to infer that ammonia is the proper and efficient germicide. This furnishes us with an additional indication for employing the salts of this nitrogenous base, for it not only supplies the nitrogenous waste, as we have contended, but also destroys the vitality of the organism which causes it."

In an editorial of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, October 10, 1885, p. 405, occurs the following allusion to this doctrine, with an extract from the same paper on the Ammonia Treatment of Typhoid Fever: "Why or how it (nitrate of ammonia) reduces the temperature of enteric fever, cannot be definitely stated; but he (Dr. Jackson) thinks that 'it is by inhibiting the life-processes of the microbe, by saturating it with the products of its own life, thus either crippling its vitality or altogether destroying its life, on the principle enunciated by him several years ago—no organism can exist in its own excretions, the product of its own life-processes.'"

I hope I may be excused for producing another extract on this important subject.

In a paper read before the Ninth International Medical Congress of 1887, on "Natural Agencies inhibiting the Life-processes of Pathogenic Organisms, considered with a view to their therapeutic employment," published in the Transactions of said Congress, Vol. iii, p. 396, I have insisted on this as one of these agencies, thus: "Next to the destructive effects of extremes of temperature, the most clearly recognized natural agency which affects the vitality of pyrogenic organisms is the production, in the medium in which they live, by means of their vital processes, of substances which are poisonous to them and cause them to die; that is, they are killed by the products of their own life-processes." "No living being can long be kept alive when so confined in the medium in which it exists, as to absorb the products of its own life-processes, its own excreta, etc., illustrated by fish in unchanged water, and by plants cultivated continuously on the same soil, etc. The excretions, then, of all living organisms are inhibitory to their life-processes, and to avail ourselves of this law with a view to its therapeutic employment, requires a minute study of diseases of zymotic origin, and may necessitate a new treatment, directed to the destruction of the particular organism which may be ascertained to be the pa-

thogenic factor in each of them." If any one is disposed to doubt the general proposition upon which this study is founded, let him examine closely any one of the various fermentations, etc.

Then follow instances in which this plan of treatment might be adopted, and also an enumeration of anti-ferments—quinine, claimed to act on this principle; dyspeptic conditions with eructations of sulphuretted hydrogen, relieved by condiments containing sulphur, *e. g.*, garlic, onions, asafoetida, etc., or by the salts of sulphurous acid; the saturation of the system with ammonia in the typhoid state, as there is known to be nitrogenous waste with ammoniacal exhalations. And further, what is now more to the point, in elucidating the treatment of the tuberculous state, I allude to the exhalation of sulphuretted hydrogen from the decomposition of the sputum of tuberculous subjects, which probably suggested Bergeon's plan of infusing into the system this very gas, and also to my own treatment by the free use of the salts of sulphurous acid and the sulphides. I do not know whether subsequent experience has established the efficacy of Bergeon's method, but with regard to my own, the results in eight cases, up to this time, have satisfactorily proved its value.

I admit that the importance of this subject demands a much more extended investigation than I have been able to give it. My inference as to the sulphurets being required, was derived merely from perceiving the odor of sulphuretted hydrogen from decomposing sputa.

That these sulphur salts have a most decided effect upon the hectic paroxysms, any one can determine for himself. In a very marked case which I was able to watch closely, I could readily prevent the return of the hectic chill, fever and colliquative sweating by means of the bisulphite of soda.

The eight cases which I could report as either absolutely cured or decidedly improved up to this time, afford a good demonstration of the correctness of the principle for which I am contending.

While the means above alluded to were my reliance for the control of the hectic condition, other means were, of course, used for general nutrition and building up of the system, the relief of dyspnoea, diarrhoea, etc. Cod-liver oil has been but little used in any of my cases, and alcoholic stimulants only at periods of extreme prostration.

Besides the constant use of the sulphur salts, the chief means employed were Parrish's syrup of the phosphates, inhalations of vapor of turpentine with carbolic acid and iodine, which latter was found to materially relieve the dyspnoea.

This plan of treatment, I contend, effectually arrests the tuberculous process by crippling or destroying the bacillus, without causing the necrosis of the diseased tissue, which is so fatal to the success of Koch's method.

I do not pretend to claim that sulphuretted hy-

drogen is the only exhalation from the bacillus tuberculosis which might furnish an indication for treatment, for it is not only possible, but highly probable, that a minute chemical study might reveal some other product resulting from the life-processes of this organism, which might suggest some other agent which would be still more efficacious in arresting its vitality and checking its predatory attacks upon the system.

All I contend for is, that it is upon this principle the treatment should be conducted, and upon this line we should search for the agent most destructive to its life.

This also appears to be the conclusion arrived at by Koch and his collaborators, and it is curious to note the similarity of the language employed by them in the year 1890, to that used by me in 1879, at least three years before the bacillus tuberculosis was discovered.

A PATHOLOGICAL CONDITION OF THE LUNGS, HITHERTO UNDESCRIBED IN THIS COUNTRY, BUT WHICH IS NOT INFREQUENT.

Read by Title in the Section of the Practice of Medicine and Physiology at the Forty-second Annual Meeting of the American Medical Association, at Washington, D. C., May, 1891.

BY F. PEYRE PORCHER, A.B., M.D.,

ONE OF THE PHYSICIANS TO THE CITY HOSPITAL, CHARLESTON S. C.

During the course of a very prolonged service in hospitals, I have repeatedly observed a condition of the lungs which is markedly distinct and characteristic, which I have not seen described.

A full account of this appeared in the *New York Medical Record*, October 19, 1889. I will give here a succinct review of the main features and symptoms, in order that we may decide whether it is only a pathological state, or whether it should rank as a distinct disease.

Patients presented the following symptoms. Dulness or sub-dulness, generally at the middle, lateral or posterior portions of the chest; there was always imperfect respiration; scarcely any râle present, or if so sparsely disseminated, and generally the subcrepitant; or perhaps there was only rough breathing. The condition was consequent on antecedent morbid states, and was discoverable weeks before death, if a fatal result ensued. There was not necessarily fever or elevation of temperature; there did not exist evidence of any acute inflammation, or any of the well-known diseases of the chest—no phthisis, pneumonia, bronchitis, pleurisy, emphysema, hydrothorax, etc. The positive physical signs of these diseases were all absent—there were no crepitant, or sibilant or crackling râles; neither were there pain or rubbing sounds. So all the diseases which these signs indicated had to be excluded.

To continue the citation of positive and negative symptoms: The respiratory murmur, though not normal, was not absent, for the lung was still pervious to air; the vocal resonance, or what I prefer to call the reverberation of voice, was slightly affected; some complementary respiration might be present, but this was not very decided, because there was no absolute consolidation. Scarcely any dyspnea may exist, and the cough may be moderate or absent. Hepatization, solidification and asthma had also to be excluded, for there was no absolute dullness, complementary or puerile respiration characterizing the two first, or crepitant râles to indicate the last. The crepitant râle, the fever or the rusty-colored sputa essential to pneumonia were not present. There were no frothy, watery, blood stained expectoration, blueness of lips, lividity, or cold extremities, as in extreme cases of oedemas; no pure hyperemia—for in our cases we have blood and serum mixed; no pulmonary congestion, for there is "no copious, watery, blood-stained expectoration" which accompanies this, which is, besides, an acute disease.

Whenever an autopsy was afforded in such cases, the physical evidences of the diseases above cited were absent, and there was invariably present a large amount of bloody serum exuding from the cut surfaces, and it would flow most freely when the lung was squeezed. There was plainly, therefore, a gross morbid fact which was the chief feature, which had to be noted and accounted for, and which, if a name was required, must necessarily be embraced under such appellation.

The conditions with which our cases would be most likely to be confounded would be the hypostatic congestion, or the hypostatic pneumonia of recent authors, or infiltration of the lungs. But there are none of the physical signs of pneumonia present; and the term infiltration is too vague and undefined—for infiltration may either follow pneumonia or be tubercular, and our cases were neither of these.

We must also decidedly exclude the term hypostatic congestion in the old sense of the term, which implied a condition of stasis just preceding death, dependent upon recumbency, position, etc.

A name was needed for the symptoms which had been isolated, and I long since began to designate the disease referred to as "engorgement of the lungs"—serum being always mixed with blood. I was compelled to the use of these terms because they only were true, applicable, and essential in describing and interpreting the condition.

My cases of engorgement of the lungs exist for days and weeks, and do not depend, as was stated, upon the accidents of position, recumbency, stasis of the blood, age of patient, or want of vitality—for the powers of life are not specially enfeebled.

I published a note in the *American Journal of*

the *Medical Sciences*, as far back as October, 1869, under the caption: "Frequency of Serous Engorgement of the Lungs," but have at last been able to get some confirmation of the probable correctness of my observations in Juergensen's paper entitled "Diseases of the Respiratory Organs" (*Ziemssen's Cyclopaedia*, Vol. v, p. 236). In this Piorry is quoted as having pointed out a distinct form of disease, corresponding in great measure with my own observations as stated above.

It is best to quote what Juergensen says (*loc. cit. Sup.*): "Hypostatic pneumonia, and hypostatic conditions of the lungs, were first recognized as a distinct form of pulmonary disease through the labors of the French writers. Pre-eminent among them is Piorry, who handles the subject with great clearness, and whose teachings are based upon a rich experience. He likewise gave the disease its name." "Piorry proved by experiments that a hypostatic condition diagnosed during life, did not alter its location after death, under the laws of gravitation. As Piorry made his diagnosis long before death, it was evident that this condition did not result during the death struggle. By means of these experiments hypostasis ceased to be a condition of but little pathological significance."

To quote still from Juergensen: "Does an inflammation of the lung actually exist? Is the term 'hypostatic pneumonia' correct? Here we must agree with Piorry, who answered this question in the negative in his nomenclature, and afterwards still further confirmed this opinion." "He calls this form of disease *pneumonie hypostatique*, and gives as a synonym *engouement pulmonaire*."

So I am sustained by Piorry, not only as regards the existence of a special disease, and in the non-existence of an inflammation of the lung, but also in the use of the identical designation, *engouement pulmonaire*, which may be equivalent to "engorgement of the lungs."

Desiring to be brief, I will yet introduce the following from the paper cited above, and which may be compared with my own observations: "The local symptoms of hypostasis demonstrable by physical examination are the following: At first diminished resonance on percussion, beginning at the lower angle of the scapula, and on auscultation a lessening, sometimes a cessation, of the respiratory murmur, which is vesicular, or may be quite indefinite in character. At the point of attack the local fremitus is weak. If hypostasis is complicated with a local catarrh, new features foreign to the former disease will appear. Mucous râles, for example, are usually absent in simple hypostasis. The dullness on percussion and the auscultatory signs, as a rule, extend slowly from below upwards. There is a period at which absolutely no breathing is to be heard over the consolidated portion (Piorry). Then mucous

râles gradually become audible, those in the larger tubes appearing first. In case of a fatal termination extensive cedema of the lungs supervenes, accompanied by auscultatory signs peculiar to that condition." I have not been able to confirm this latter observation, never finding the crepitant râle, which Laennec taught us is distinctive of cedemas, as it is of pneumonia, and the congested area around a hæmorrhagic spot.

Piorry does not mention the causes of the condition he describes. In my paper in the *Amer. Jour. of the Med. Sciences*, I described them as "the result of neglected catarrhs, previously existing bronchitis, or pneumonia in a chronic form, and sometimes the engorgement is partly hypostatic; but this term should be reserved for post-mortem changes, or those occurring just before death."

Both of us, therefore, recognized and marked out a collection of symptoms which are often found associated, but which had not previously been designated as characterizing a special diseased condition. This collection, in my opinion, can have no other name than "engorgement of the lungs;" and all such terms as pneumonias, hyperæmias, congestions, cedemas, etc., must be rejected.

The merit of Piorry consists in his freeing hypostatic processes from the imputation—ancient and deep grounded in all writings—of occurring just before death; and giving it its true place as a diseased condition of variable duration, to be recognized during life.

If my cases of engorgement of the lungs are alleged to be only forms of hypostasis, which I do not believe to be true, I also recognized them as unconnected with position, the decubitus, or the death struggle, defined their *ante-* and *post-mortem* characteristics, as existing and to be studied and treated long before dissolution.

Auscultation and percussion being a true science, founded on variable physical and morbid conditions, there is no obscurity or difficulty about the symptoms furnished by the disease we are discussing. These symptoms, as in every other affection of the chest, arise out of and correspond necessarily with the internal morbid changes which exist, viz.: engorgement of the lungs.

THE MEDICAL LAW OF ALABAMA.

The penalty bill, as it passed the legislature, provides that any person practicing medicine or surgery in that State without having first obtained a certificate of qualification from one of the authorized Boards of Medical Examiners of the State, shall be guilty of a misdemeanor, and on conviction thereof, shall be fined not less than twenty-five dollars nor more than one hundred. Provided, that this act shall not apply to any doctor practicing medicine in Alabama who is a graduate of a reputable medical college, and who has complied with the law by having his diploma recorded by the judge of Probate in the county in which he is practicing.

DIGITALIS IN THE FIRST AND SECOND STAGES OF PNEUMONIA.

Read by Title in the *Session of the State of Medicine and Pharmacy at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C. May 1891.*

BY J. W. CARHART, M.D., C.M., D.D.,

OF LAMPASAS, TEXAS.

MEMBER OF AMERICAN MEDICAL ASSOCIATION, TEXAS STATE MEDICAL ASSOCIATION, AUSTIN DISTRICT MEDICAL ASSOCIATION; AUTHOR OF *SUNNY HOURS*, POETS AND POETRY OF THE HERBALS, FOUR YEARS ON WHEELS, ETC.

Ziemssen gives 50 per cent. of deaths from pneumonia following measles. He lost one-half of his pneumonia patients under one year of age; two-fifths of those from one to three years; and one-fourth of those above three. The ratio of deaths from pneumonia among those of advanced years, and enfeebled by age is even greater. The disease prevails to an alarming extent in the State of Texas, particularly at certain seasons of the year; and as a consequence, I have been led to make somewhat careful investigation into the nature and treatment of the disease, and the cause of the very large death-rate amongst us, which, I have no doubt, will equal that reported by Ziemssen. Whilst there are many factors that contribute largely to swell the mortality record in this disease, such as insufficient clothing, uncomfortable dwellings, exposure in camp-life, improper sanitation, inefficient nursing, bad habits as it regards the use of tobacco and alcoholic stimulants, the one I have chosen for discussion in this short paper is not the least of them all. I am persuaded that the use of digitalis in the first and second stages of this disease is responsible for the death of multitudes in my State, Texas; and I hope, through this means, to call the attention of the profession to the subject, and thus save many valuable lives and relieve much suffering.

In order to a clearer comprehension of our subject, it will be well for us, in the first place, to consider the physiological action of the drug in the condition of health. Here we find, not only a variety but a decided conflict of opinion among writers; a conflict which is unfortunate, not to say unjustifiable. There are many established facts, however, upon which most, if not all, writers are agreed.

"Fish placed in a weak infusion of the plant die in spasms, with the ventricle of the heart contracted. Digitalin used hypodermically in frogs occasions a tetanoid rigidity of the muscles and an irregular, tonic contraction of the left ventricle of the heart, with slowness and unsteadiness of its rhythm. The auricle does not seem to participate in this action of the ventricle, but becomes distended as the capacity of the ventricle diminishes. At the same time, the pulse rate declines and the blood-pressure increases. . . . Experimental investigation has demonstrated that large doses of digitalin pro-

duce marked contraction and even a complete closure of the capillary vessels, a condition which necessarily involves an increased blood-pressure in the larger arteries. . . . The auricle does not participate in the contraction affecting the ventricle, but becomes distended by the accumulated blood. . . . Digitalis is held to act on the vaso-motor centre, and thus to produce contraction of the peripheral arterioles."

In small doses, digitalis and its preparations primarily increase pulse-rate and tension, and if continued will lower the pulse-rate without diminishing the tension. The supply of arterial blood is everywhere diminished under the influence of the drug, owing to the tonic contraction of both the left ventricle and of the arteries themselves.

All the heart-muscles are not subject to contraction in an equal degree, under the influence of digitalis, but chiefly those of the left ventricle. It thus tends to obstruct cardiac circulation; and by preventing free passage of blood through the heart tends to produce death from syncope.

It certainly depresses the entire nervous system, if administered in sufficient doses to produce anything like its physiological action; impairs digestion, diminishes urination, retards respiration and interferes with the nutrition of the heart itself.

Digitalis as an antipyretic is valueless. If any antipyretic effects should be produced it would be accompanied by disquieting results, and a tendency to heart paralysis.

The result of various experiments proves that digitalis does not in the least modify favorably any acute inflammation, and especially pneumonia, pleurisy and periocarditis; but that, on the contrary, it exposes the patient to the risk of sudden death.

It is now in order for us to get as clear an idea as possible of the pathological conditions in pneumonia that we may understand the effects of digitalis in the first and second stages.

It will not be necessary, for our present purpose, to discuss the fine distinctions that are made in this disease, such as bronchial pneumonia, catarrhal pneumonia, and lobular pneumonia.

The term broncho-pneumonia will sufficiently indicate the form adapted to our purpose in this discussion.

The lungs are made up of bronchi, air-passages, alveoli, pulmonary pleurae, and connective tissue stroma, containing blood-vessels, lymphatics and nerves.

In pneumonia, of the type under consideration, the common course is for the inflammatory invasion to proceed from the larger to the smaller air tubes, thence to advance into the finest, to the capillary bronchi, whence it communicates the inflammation to the terminal air passages, and alveoli.

This process of invasion may be almost simultaneous and rapid; or it may take several days or weeks.

The result, sooner or later, is the involvement of the bronchi and more or less lobules of pulmonary hepatization and possibly atelectasis.

I am aware that from a strictly pathological standpoint we may not speak of the three stages of the disease as the stage of inflammation and engorgement, the stage of infiltration and red hepatization, as the result of engorgement; and the final or third stage of resolution, in favorable cases; or that of gray hepatization and possibly atelectasis premonitory of dissolution; and yet, clinically, this division would seem to be correct, and to be very serviceable.

In order to a fuller understanding of our subject, let us consider the condition and function of the lungs in the first and second stages of the disease; and the resultant effect upon the circulatory apparatus.

In the early stages the bronchi contain more morbid secretions in the form of clear viscid mucus, whilst in subsequent stages they are filled with creamy pus. There are sometimes found subpleural accumulations of somewhat inspissated, yellow secretions, contained in dilated alveoli, or in small globular dilatations of terminal bronchioles. They are probably caused by the secretion of particles of bronchial secretions into the alveoli in the forcible inspiratory effects which follow paroxysms of cough.

"The lung itself," says Pepper, "exhibits, associated in varying degrees, congestion, œdema, emphysema, collapse, and pneumonic consolidation."

Juergensen showed, twenty years ago, that there was stagnation in the lungs rather than an active hyperæmia, which results in the weakening of the heart. He also showed that the lung consolidation not only presented more or less obstruction to the pulmonary circulation, and hence necessitated increased action on the part of the right ventricle; but owing to the diminished respiratory surface, this ventricle is obliged to do more work in order that the proper interchanges of gases may be effected in the lungs.

It is important for us now to consider the effect of the above conditions of the lungs on the heart and circulation and we shall then be prepared to study the effects of digitalis in these cases.

It matters but little, so far as our present purpose is concerned, whether pneumonia be considered a systemic disease, with local manifestations in the lungs, or whether it be regarded as primarily affecting the lungs with systemic consequences.

We find as a clinical and pathological fact, the lungs engorged, swollen and hot, whatever may be the etiology; with blood stains; followed by hepatization and infiltration, and a consequent

obstruction of circulation in the fine network of capillaries.

As a result of this condition of things we find a lack of aeration of the blood with consequent carbonic acid poisoning of the whole system.

In consequence of the obstruction to the passage of blood through the lungs the pulmonary vein is inadequately supplied even with a partially aerated blood stream. The blood coming to the left auricle and ventricle is hot in consequence of the extraordinary heat in the lungs. This hot, partially aerated blood stream stimulates the heart to greater activity, whilst its nourishment, furnished through the coronary arteries, is inadequate to its overworked condition.

"The longer this condition exists the more rapidly the heart will be overworked. As the irritability of the excito-motor ganglia and the tone of the vagus also reduced by the defective oxygen supply."

Owing to the back pressure, so to speak, upon the venous blood stream, from the right heart, caused by the blood stasis in the lungs, we have extreme venous tension, and intense strain upon the right heart.

In the onset of the disease we have a contracted condition of the capillaries, particularly of the periphery of the body, which adds to the venous tension.

We now have labored respiration, owing to Nature's effort to compensate for the restricted active lung area; we have a diminished, and intensely inadequately aerated blood stream from the lungs, through the pulmonary vein to the left heart—we have a heart stimulated to frightful tension, in most cases, by the overheated blood, and inadequately nourished by viciated blood through the coronary arteries—we have an inadequate, deteriorated arterial supply, with capillary and venous engorgement.

With this condition of things we are told to give digitalis to relieve the dyspnoea and strengthen the heart.

Dr. A. L. Loomis, writing on croupous pneumonia, in Pepper's system of medicine, Vol. 3, pp. 346, 347 says: "A careful study of the pathology of pneumonia not only leads one to the conviction that venesection must do harm, but it strongly contra-indicates the employment of all those remedial agents which have been used to arrest a simple pulmonary inflammation."

He further says, "Veratria is claimed to be a cardiac depressant; and this fact should make us hesitate before we administer it in pneumonia. It acts promptly in slowing the pulse but its effects are only temporary, and when used for a couple of days the large doses that are necessary to bring about the desired results interfere with the nutrition of the patient, often causing vomiting and diarrhoea. Aconite is also a cardiac sed-

ative, but my experience with it has convinced me that it is, in all respects, inferior to veratria. Digitalis, which may be regarded as a cardiac stimulant, is to be preferred to either veratria or aconite. It not only lowers temperature, but lessens the frequency of the pulse, steadies it and produces, in the majority of cases, its well known tonic action upon the heart.

Its use in children is sometimes followed by an intermittent pulse, but it is a symptom of no dangerous import."

Barring the cases of pneumonia in children, in anæmic and in aged persons, I would, with all respect for Dr. Loomis, ask him why not practice venesection in extreme venous tension in the stage of engorgement? We are certain that the procedure discreetly used, has saved many valuable lives, and if practiced in New York City would reduce the fearful death-rate there from this increasing disease.

I will now quote an authority of equal eminence with Dr. Loomis, in reply to his theory that medical agents should not be used to lower the temperature in this disease; and against his advocacy of the use of digitalis.

This authority says, speaking upon the very same subject, croupous pneumonia, "In all severe types of croupous pneumonia there are two prominent sources of danger; heart-insufficiency and high temperature. There are, consequently, two prominent indications for treatment, viz.: to sustain the heart and reduce the temperature." The same authority further says, "Digitalis of late years has been extensively used to counteract heart insufficiency, but it is very uncertain in its action in the heart-insufficiency of pneumonia, and has seemed to me more frequently to do harm than good. The nervous element of the heart failure contra-indicates its use."

You may be curious to know who my authority is, so plainly and positively, and, as I think, unanswerably contradicting Dr. Loomis; and I must tell you that it is Dr. Loomis himself, writing subsequently to the first quotation I have made from him.

We are told that digitalis reduces temperature, is a heart stimulant, slows and steadies the heart's action in pneumonia and relieves dyspnoea, and consequently should be used, even in the first and second stages of this disease.

It is yet to be proven that it lowers temperature under any circumstances, except where it kills. It also remains to be proven that it slows and steadies the heart's action in the first and second stages of the disease, and that it relieves dyspnoea.

On the other hand, I affirm, and on the authority of eminent observers coupled with my own experience, that in most cases in the first and second stages it increases dyspnoea, stimulates an already over-stimulated heart, renders the pulse

unsteady and intermittent, as Dr. Loomis has said, tends to produce heart-paralysis, contracts the capillaries and thus adds to the blood stasis in the lungs with increased venous tension and all its consequent train of evils. If pushed in the conditions to which I have referred it will almost inevitably produce death.

Veratria, with morphia and atropia, until the third stage commences, in most cases, slows the heart's action without depression; dilates the capillaries, thus relieving the venous tension and the right heart—relieves dyspnea—conserves the vital forces—reduces temperature and lessens the inflammatory process.

If there is dicrotic pulse, and especially from the use of digitalis, veratria, morphia and atropia will relieve, as I have witnessed in multitudes of cases.

They should neither be pushed to their unpleasant consequences, since the desired results can usually be obtained without.

THE REPORT OF A CASE OF FATTY URINE ACCOMPANYING AN ABSCESS IN THE RIGHT ILIAC FOSSA—RECOVERY.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington D. C. May, 1891.

BY J. P. CONNELLY, M.D.,

OF WILLIAMSPORT, PA.

Mrs. W., colored, aged 27, born in Pennsylvania, and never resided outside the borders of the State. Gave birth to a living child at 16; has never been pregnant since. Had good health for the first five years following the birth of her child. During the last six years, has had irregular chills followed by fever lasting from two to five days. No disturbance of the menstrual functions. Bowels have always been regular, and she never had pain in the region of the cæcum. On Thursday, January 9, 1890, she was taken with headache and backache, and then a severe rigor followed by high fever. I saw her on Saturday, January 11. She had then temperature 104°, pulse 120, a heavy white coat on tongue, and in addition to the general symptoms accompanying fever, complained of a pain in the right iliac region, where a deeply seated tumor, giving an obscure sense of fluctuation, could be felt. It was about the size of a croquet ball, slightly ovoidal in shape, and dipped down into the pelvis, displacing the uterus to the left.

She stated that since Tuesday, January 7, two days before the rigor, she had noticed fat in her urine, and showed me some which contained large broken pieces resembling tallow.

To avoid a possible error, the patient was requested to pass urine in my presence, which was

done. Floating upon the surface of the warm urine, could be seen large quantities of fat, resembling castor or olive oil. It rapidly solidified upon cooling, to the consistency of beef tallow, and was of a yellowish white color.

The amount of urine passed in twenty four hours was 24 fluid ozs. In this the fat, when collected and warmed, measured 4½ fluid ozs., and weighed, when moulded into a cake, 3½ ozs. avoirdupois.

The urine was clear, without sediment, color amber, reaction acid, specific gravity 1020. No albumen, tests used were heat and nitric acid and Heller's test. No sugar.

Fat was passed in about the same quantity for eight days, when a large amount of pus was suddenly discharged with the urine. The fat then immediately and entirely disappeared.

Pus was passed in gradually diminishing amounts for about three months.

The patient slowly improved and in about five months was apparently restored to health, and has remained so to the present.

No cod-liver or other oil had been taken before or during this period.

The blood was frequently examined for falaria, but always with negative results.

So far as my knowledge goes the case is unique, in the amount of fat passed, the time at which it was passed, and in the subsequent recovery of the patient.

In the previously recorded cases, the fat seems to have been passed in small amounts, except in the cases of Dr. Johnson and of Dr. Cushing. Dr. Geo. W. Johnson's case was one of calcareous disease of the pancreas, published in the *American Journal of the Medical Sciences*, October, 1883, p. 427, where the fat is said to have passed in such quantities as to "float when cool in greasy flakes on the surface."

Dr. E. W. Cushing published in the *Boston Medical and Surgical Journal*, February, 1881, p. 242, the report of a case of abscess in the left iliac region, in which, several days after the appearance of foul pus in the urine, "at the end of catheterization pure, clear oil ran out, in volume about one-fifteenth of the urine." This continued, with occasional intermissions, for three days. One week after its first appearance, death ensued. "On opening the abdomen a large, foul collection of pus, containing an abundance of pure oil and large strings and pieces of sloughing fat, was encountered in the left abdominal and iliac region. Near the exit of the left ureter was a small opening communicating with the abscess."

My patient, unlike Dr. Cushing's, passed the fat not during but before the appearance of pus, and it seems impossible for it to have been due, as in his case, to sloughing adipose tissue; because during the passage of the fat, there was absolutely no trace of albumen or pus in the urine.

While unable to explain the phenomenon, it seems to us to have been a pressure symptom, as it occurred only the last week prior to the opening of the abscess, and ceased when the pressure was relieved.

Neither are the conclusions of Dr. Cushing borne out "that such cases are sure to terminate fatally, unless by opening and counter-opening, a free drainage and disinfection can be carried out."

THE OPTICIAN AND OPHTHALMOLOGY.

BY GEORGE M. GOULD, M.D.,

OPHTHALMOLOGIST TO THE PHILADELPHIA HOSPITAL
PHILADELPHIA, PA.

The paragraph by Mr. Henry A. Riley, in *THE JOURNAL* of May 2, entitled *Cosmetics and Spectacles in Court*, is one of a thousand illustrations constantly reappearing with sorry monotony, of the fact that when a layman tries to say anything about medicine, he, with the most delicious unconsciousness, takes the side of ignorance and untruth, makes a mess of what he tries to say, and if his words have any weight he injures the cause of scientific medicine. It is a strange fatality akin to that of the success of the patent medicine man, and the enthusiastic acceptance by otherwise intelligent men of the impudent nonsense of homœopathy, faith cure, etc. Mr. Riley's words are few, but as representative of the half-formed opinion of perhaps many others, they should have been excluded from the pages of a journal caring for scientific medical progress, and hence require a dozen words of contradiction.

The first sentence is true, but not as supposed by the gentleman. The optician *does* "hold a doubtful position in regard to the practice of medicine," and it is because homœopathy holds such a position, and because supposedly intelligent people encourage the continuance of this doubtful position, go to an optician who knows nothing about this work for correction of optical defects of the eye, instead of going to one who with the study of a lifetime can learn but a small part of the desirable knowledge on the subject. The "doubtful position" should be ended at once by the enactment of laws on the "narrow, technical theory" that your correspondent tells us the French courts have found right. Until that is done opticians will go on ruining eyes and health, as all oculists have bitter experience almost daily in trying to undo and correct the injury done their patients who have first passed through the hands of the optician.

If he furnishes a customer glasses to cure errors in sight—if he investigates the troubles of the eye, if he determines the errors in refraction and if he prescribes a combination of lenses such as will remedy the affection, etc. The gentleman evidently never heard of the Teutonic maiden who, while

drawing beer, fell into a delightful reverie, imagining all the years of splendor and happiness that would follow if she should marry the Prince. In the meantime the beer filled the pitcher and ran all over the floor.

The trouble all lies in the *if*. In order to be perfectly safe, and also to have a loophole to crawl out of if some ignoramus with fiery eyes avers that *he* can do it, I will say that there is but *one* optician in the United States who *can* "give a customer glasses to cure errors in sight," or who is competent to "determine errors of refraction and prescribe a combination of lenses such as will remedy the affection." There is only one optician who can do this; the other ten thousand cannot do it.

The limit of the ridiculous is finally reached in the very amusing supposition that "the optician may be a physiologist." This bit of fustian spoken before a convention of opticians would certainly be considered the joke of the day. It is too absurd to answer. If we seek the fundamental reasons for the delusion into which such logicians as your correspondent fall, we find them somewhat as follows:

1. A complete misconception on the part of the general public, and too often on the part of some general physicians, as to the *role* of eye-strain in our modern life. Without a medical education (and with it the optician would necessarily cease to be an optician), the spectacle-vendor cannot know anything of the pathological relations to the eye and the general system. The eye, it is true, is a camera obscura, but it is a living, not a dead or mechanical, one. Every pair of lenses worn by every person in the world has a medical and pathological significance. This, to be sure, seems to the laity an outrageous exaggeration, but it is *la vraie vérité*.

2. The same mediævalism of logic would deny the medical profession a *locus standi* or justification of existence. If the optician can do all it is said he may do, then the doctor should hand his diploma to the pharmacist and go out of business; because the druggist, as a general rule, is far and away more competent to prescribe the proper drugs in a case of disease than the optician is to prescribe the proper glasses. That may also seem an exaggerated statement, and again it is very truth.

3. It is a sneaking, ill-concealed belief on the part of many that this opposition on the part of "allopaths," "the old school," "the blue-mass old fogies," to quackery of all forms, to advertisers, to prescribing druggists and prescribing opticians, is a matter of low cunning, self-interest and envy. Those who secretly harbor such thoughts or feelings simply illustrate their inability to perceive facts correctly. They are victims of their own vanity.

4. If to opticians is to be given the function of

prescribing for refractive errors, the law should require of them, as it does of druggists, an education in their calling, a diploma that they are opticians, if not "physiologists," "pathologists," etc. Viewing the eye simply as a dead camera obscura, as having no other laws than optic laws, I have never seen a pair of glasses prescribed by an optician that were correct. I have had hundreds of suffering patients abused by the optician's supposed ability to prescribe, and never was a single pair of lenses correct optically speaking. They did not neutralize the patient's optical error. There is one optician, of course, who never makes these mistakes. As a matter of fact, with the one exception, opticians enter their calling either from the jewelry business or from the work-bench of the spectacle-maker and lens-grinder. Neither one of these callings, honorable enough indeed in themselves, necessarily imply an education in the laws of optics or the physiology and pathology of the eye.

5. Not only do all errors of refraction have medical and pathological significance, but if the optician is to treat all errors of refraction, he must perforce be a physician; because many diseases, most serious and dangerous ones too, can only be recognized by a physician, are not recognized by the patient as other than a call for spectacles, and could not be recognized by the optician. Every oculist has had instances of glaucomatous patients going to the optician for spectacles. As the disease progresses changes in the spectacles must frequently be made, until finally blindness is the walking monument of the non-existence of the "narrow technical theory" of the French courts, and the dominance of the "broader principle of legal construction" your correspondent hopes will have sway here. *Gott bewahr!*

It seems doubly strange to hear an intelligent gentleman arguing in this way in the face of the fact that the best opticians are ashamed of the hypocrisy and the wrong they are forced to do by the competition of unprincipled spectacle-vendors. An optician of any intelligence and honesty knows he does wrong in prescribing glasses. Even the worst of them are vaguely conscious of the fact. The better class will not prescribe except in cases of presbyopia, and even then free their consciences by advice to go to the ophthalmologist instead. The very highest class of opticians, men of conscience and intellect, will never sell a pair of spectacles except upon a physician's prescription. In this direction lies the elevation of the optician's profession, scientific and humane progress; in the way counseled by your correspondent lies the degradation of the optician's profession, and a return to mediævalism in medicine.

AMERICAN MEDICAL TEMPERANCE ASSOCIATION.

BY T. D. CROTHERS, M.D.,
HARTFORD, CONN.

This Association was organized at Washington, May 7, 1891, in pursuance to call by Dr. N. S. Davis, of Chicago, Ill., inviting all persons interested to meet and confer on the need of such an association. Sixty-one physicians were enrolled as original members, and a constitution and by-laws adopted, a board of officers elected, and thus a new medical organization was auspiciously started.

The purpose and object of this new society is outlined in the following statement offered by Dr. Davis:

"The object of this Association is to advance the practice of total abstinence in and through the medical profession, and to promote investigation as to the action of alcohol in health and disease, and it aims at being a bond of union among medical abstainers scattered all over our country. It admits as members regular medical practitioners who are practical abstainers from all alcoholic liquors as beverages. Members are not required to sign any pledge, but if such for any reason cease to become total abstainers it is expected that they will withdraw from the Association. The liberty of members to prescribe alcohol is entirely uncontrolled."

From this it will be apparent that the central purpose of this society is to study and investigate the action of alcohol as both a beverage and medicine. The only qualification required is to be a regular medical practitioner, and total abstainer from alcohol as a beverage. It will be apparent that the last qualification is more or less a scientific necessity for good work in this field. It is assumed rightly, that all physicians interested in this problem of alcohol should approach it from the scientific side alone, unbiased by any personal considerations of custom or habit, political or religious belief, with no object other than to ascertain the facts concerning alcohol, irrespective of all possible conclusions. This is the spirit and purpose of the Association.

In England a similar association composed of members of the British Medical Society has been in existence many years. Their regular meeting occurs at the same time with the British Medical Association, and the value and usefulness of their work is recognized in all scientific circles. In this country a society called the Association for the Study and Cure of Inebriety has been in existence for twenty years. It is composed largely of specialists and persons engaged in treating inebriety as a disease. While it has done grand work, and built up a very suggestive literature through its *Journal of Inebriety*, it has not taken up the popular medical discussion of alcohol, which this new society proposes to do. These

two societies will be closely allied in both work and purpose. One will have for its object the grouping and harmonizing the diverse theories of physicians concerning alcohol and its action, and the other the study of the inebriate and his maladies.

The Medical Temperance Association in the former work will be most heartily welcomed by all scientific men. The alcoholic problem has reached such proportions, and has become a subject of such intense interest in all political, social, and religious circles as to demand scientific study.

Medical men in every community are called upon to determine the facts concerning alcohol, and the necessity for medical study and agreement concerning the general truths are apparent to every one. For this purpose the Medical Temperance Association invite the coöperation and aid of every physician, not for the propagation of any theory, but for the gathering and grouping of facts concerning the action of alcohol.

The Association is entirely independent of any other object except the purely scientific question of alcohol. The Executive Committee has power to hold meetings in any part of the country where the medical interest seems to demand it. The regular annual meeting will be held at the same place and time of the American Medical Association. Papers and discussions will be presented at this time. While this Association is the culmination of an idea long entertained by Dr. Davis, and held until medical sentiment would fully sustain it, it is apparent that it is an expression of medical advance, of the scientific spirit of the times, that would rise above the theories and precedents of the past for the facts concerning alcohol.

This Association appeals to every physician, not as propagandists, but as scientists, for facts and clinical experience. It appeals to them as the only competent authority to determine the alcoholic problem. It appeals to the physician to guide and direct public sentiment, and to make this Association the great central power for the study and propagation of the facts and laws relating to alcohol, and its use and abuse.

The following are the officers elected for the first year:

N. S. Davis, M.D., President, Chicago, Ill.

For Vice-Presidents, I. N. Quimby, M.D., Jersey City, N. J.; J. B. Whiting, M.D., Janesville, Wis.; F. E. Yoakum, M.D., Shreveport, La.; J. Taft, M.D., Cincinnati, Ohio.

Secretary, T. D. Crothers, M.D., Hartford, Conn.

Treasurer, G. W. Webster, M.D., Chicago, Ill.

For by-laws and constitution, and application for membership, address the Secretary, at Hartford, Conn.

MEDICAL PROGRESS.

ON ACID MEDICATION IN DISORDERS OF DIGESTION.—The pathology and treatment of digestive disorders has of late been engaging the attention of many observers in France. The brilliant writings of G. Sée, G. Lyon Huchard and others have done much to disseminate a more thorough knowledge of the causation of dyspepsia. In this matter Germany was, until recently, far in advance. The "Freuch treatment" was far too uniform, and sufficient allowance was not made for the many varying forms of the disease. The routine treatment was either to send the patient to Vichy for a course of the waters, or alkalies in some other form were prescribed, to counteract the "acidity." Of course, many derived much benefit from these measures, but in others they failed completely. In order to understand the principle of the modern treatment, the following physiological details must be understood: The granular cells of the stomach form a substance named *propepsin*, which is secreted continuously, and in presence of the gastric acid is converted into pepsin. This pepsin is used up during digestion, and one of the most frequent disturbances of the process is due to the fact that, although the supply of propepsin is practically inexhaustible, yet the gastric acid may not be secreted in quantity sufficient to convert enough of this into pepsin. Both propepsin and acid are necessary for digestion; neither is of use by itself. If there be excess of functional work and increase of total acidity, we are in presence of a "hyper-hydrochloric" dyspepsia. This condition is probably rare, and only occurs under special circumstances, as in ataxia and some other neuroses. Diminution in the quantity of acid, "hypo-hydrochloric" dyspepsia, exists in the greater number of dyspeptics, the first effect of chronic disorders of digestion being to weaken the chemical operations of the stomach and to diminish the gastric acid. This diminution may even go so far as to lead to its complete disappearance, "ana-hydrochloric dyspepsia," which occurs principally in neurasthenia, and in the later stages of cachexia from cancer of the stomach, etc. As a consequence of the diminution of acid we have fermentations occurring, leading to pain, flatulence, vomiting, and the other well-known symptoms of dyspepsia. These facts once ascertained—and methods for determining them have already been described in our pages—it naturally occurs that the correct treatment is to supply the stomach with the acid in which it is deficient. The problem is, however, by no means so simple; we must not lose sight of the other agents—mucus, rennet-ferment, duodenal secretion, etc., which may also be subject to morbid alterations. Atony or hypersthenia of the muscular tissue, leading

respectively to dilatation or hyperæsthesia, give rise also to their own peculiar train of symptoms. With the increase in our knowledge, we must not shut our eyes to all these and many other conditions, which would certainly not be uniformly benefited by acid medication.

Indications for Alkaline Medication.—Until recently the plan of treatment most in vogue in France has been quite the opposite to this, and alkaline medication has been the method *par excellence*: régime, alkalies, artificial ferments, tonics, laxatives, Vichy water, etc., have benefited many. But at least half receive no benefit from this plan, and others who get temporary relief are not freed for long from their old enemy. Still, there is a class of cases which will be cured by such treatment. Imperfect mastication, privation, overwork, mental anxiety, or an excess of some sort, may have been followed by flatulence, vomiting, etc., and the patient seeks advice. Here the production of acid is diminished, but the glands themselves may be healthy; and in eight cases out of ten they only require the stimulus of an alkali to make them secrete their acid in the proper quantity. In these temporary conditions alkalies are the true remedy.

Indications for Acid Medication.—There is another class of patients who say that they are rheumatic, and only digest well when there are pains in their limbs. In their own language, "their rheumatism flies to the stomach." Such are the patients with *gastric catarrh* from excessive secretion of mucus, and duodenal juice. This fluid, if secreted in too great abundance, forms a coating over the gland surfaces, interposing itself between these and the food, and thus weakening or abolishing the power of the gastric juice. No amount of alkaline medicines will be of service—they are victims of the "rheumatoid diathesis," and urgently require acid treatment. The condition has nothing to do with rheumatism properly so-called, and is produced especially in the inhabitants of damp and cold climates like our own. Its symptoms are as follows: Uniform whiteness of the tongue, anorexia, wasting, and loss of strength; digestive troubles, with or without vomiting; alternate constipation and diarrhoea; wandering pains, rendered worse by changes of temperature; frequent coryza, pruritus, and skin eruptions; no true rheumatic antecedents. To such cases strong mineral acids are a necessity. Others to whom it is almost equally useful are the patients with dilated atonic stomachs, which allow of fermentative changes; neurotic and anæmic girls; old men with enfeebled gastric powers; the anæmic dwellers in tropical climates. Such cases often improve remarkably under acid treatment.

Contra-indications of Acids.—The conditions in which acids are formally contra-indicated may be thus enumerated: "Hyperchlorhydric," pure

dyspepsia, irritative dyspepsia, febrile or inflammatory affections, gout and rheumatism, milk diet.

How to Employ Acids.—As hydrochloric acid was found to be the natural acid of the stomach, it was naturally thought that this would be the best to use. In practice, however, it has been found that its powers fall far short of what might be expected. Small doses are useless, and large doses are both inconvenient and irritating. Bouchard gave as much as 5j of strong acid daily to his patients, diluted in a quart of water, and this was often the minimum efficient quantity *per meal*. Others tried vegetable acids—lactic, tartaric, acetic. All these, as might be expected, did nothing but harm. *Aqua regia* is much employed in this country, and enormous doses are often taken with benefit. Some patients, however, cannot stand this, and the author prefers a compound acid prepared in the following way: R. Acid sulphuric (pure), 28 pts.; acid nitric (pure) 8 pts.; spt. vini (80°), 180 pts., by weight, to be mixed gradually in ice. This is his "*acide sulphonitrique rabelisé*." It should be prepared long before required for use; in fact, the older the better. No violent reaction should be allowed to occur during its preparation, and the product when ready for use will contain sulphovinic acid, and a small quantity of nitric ether, which gives it a most pleasant odor. The dose is about 20 drops, after meals, given in water, wine or beer. According to the author no acid gives better results than this, which agrees well whenever acids are indicated. —*Bull. Gén. de Thérap.*

COMBINATION OF PARAFFIN WITH LANOLIN. —Paschkis has found that the special advantages of lanolin are increased when diluted with paraffin. The formula which he found best for a basis is:

- R. Lanolin 66 parts.
- Liquid paraffin, 6 parts.
- Ceresin, 1 part.
- Distilled water, 65 parts. ㄗ.

INFANTILE CONSTIPATION.—Bouchut employs the following syrup:

- R. Podophyllin, gr. j.
- Alcohol, f3jss.
- Syrup althæa, f3jv. ㄗ.
- S. Dessertspoonful daily.

—*Union Médicale.*

FISSURED NIPPLES.—Dr. Barton C. Hirst (*Univ. Mag.*, March, 1891) suggests the following application:

- R. Bismuth subnitrat.
- Olei ricini, āā 3j.

The nipple and adjacent skin must be carefully cleansed, and the ointment then rubbed on liberally.

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SATURDAY, JUNE 6, 1891.

MESSAGE OF THE GENITAL ORGANS.

Objection again comes, from a high authority, to the use of massage in affections of the female reproductive system.

This question admits of two distinct and separate views based upon the results which follow under those of widely different organism and nervous trend. And the query arises: How can we foresee, in a given patient, debilitated by a neurotic condition involving the genital organs, or laboring under some other morbidity more directly touching the structural harmony of the parts, the unfortunate consequences which are sometimes observed, and upon which the strenuous objections rest?

It becomes at once a metaphysical inquiry, and runs off into fields of moral philosophy. The mind and will of the individual, upon whom the restorative powers of massage is to be tried, should first be studied, and from such study the probable outcome is to be weighed. And not alone the present state, but the past life of the patient as well, should be looked into. Questions of delicacy at once present themselves and should have prompt and straight-forward solution.

When the medical adviser can fully fortify himself with a clear, unquestioned knowledge of the entire mental, moral and physical make-up of his patient; when, so far as the patient is concerned, he feels there is nothing to fear from the application of massage, but that on the contrary there is everything to gain, then, and not

until then, do we feel there is justification in the resort to this remedial measure.

And yet the half has but been said! The masseur! Here, again, must there be a display of the keenest circumspection. If the physician, after possessing the insight above-mentioned, is to act as masseur, or if massage is to be applied under his *immediate* supervision, then we have but little to add. Conscientiousness here is the outgrowth of the previous carefulness. If, however, a professional masseur must be selected, under whose charge the patient is to quite entirely rest, then the two-fold character of the case, and the physician's responsibility, becomes at once apparent.

Here, again, must a solution of the mental and moral integrity of an individual be made, not in the weakness of the body, but under the condition of physical strength. Here, as well, must there be a diversion of will power into paths leading away from the sensual. Here, again, must there be the buoyant feeling of hope, together with that determination towards success in the relief of the patient which plays so important a part.

Too much attention can scarcely be given this subject of the proper and peculiar fitness of the operator; and when this, and the other factors, are duly considered we feel that this system of treatment will be largely bereft of the odium which now surrounds it.

THE WATER WE DRINK.

There is no problem in science more definitely settled, than the one pertaining to the drinking of impure water as a cause of enteric disease. In the large cities, efficient boards of health with skilled men employed as chemists and sanitary officers stand as watchful guardians over the water supply of the people.

In country districts the conditions are quite the reverse; there are neither health boards, nor paid sanitary officers, and usually the only man in the vicinity who has any knowledge of the subject is the neighborhood physician, and upon him devolves a solution of all causes of preventable disease within the territory in which he labors.

In many parts of the country typhoid fever and dysentery appear with the same regularity as

the seasons, and always with the variability of the water supply. Frequently the priceless spring is located on a little lower level than the farm-house and barn-yard; and although it may bubble forth in a stream of clearest crystal water, may be so laden with poisonous microbes, as to become the involuntary purveyor of the germs of disease and death.

Contaminated water may be the only drink of the milk cows and through this channel produce and foster an epidemic of disease.

Physicians engaged in country practice have many opportunities for making valuable observations in this direction, while such studies enable them to become educators of the people.

A "HEALTHERIES" AT NEW YORK.

An imitation of the London Healtheries has been set on foot in New York City, having its offices in the vicinity of Madison Square. Its projectors claim that while the primary operations of the Healtheries will be directed toward the procurement of a purer food-supply, the general influence of the movement will be exercised over all departments of the public health. The company intends to have exact chemical and microscopical examinations made upon suspected articles of food and drink that are offered to the public, and promises to inform the individual consumer, upon application, of the results of such investigations. Inasmuch as a recent Food Exhibition yielded a net profit of \$50,000, it is probable that much of the scientific work above referred to can be accomplished free of cost to the general public. A certain proportion of the annual profits will be laid aside as a fund for a permanent building. A weekly or monthly food journal will probably soon be issued, for the purposes of publishing the results of analyses, and of announcing the new foods in the markets. There will be at the outset a board of three well known chemists; all analyses made for the company must be signed by two or more of the board.

LEPER COLONY IN BRITISH COLUMBIA.

An isolation of all lepers found at large in the towns of British Columbia has been ordained by the Dominion government. An island off the coast, called Darcy's Island, has been set apart

and will immediately be prepared for the reception of the leper colony, composed chiefly of Chinese. The authorities have also ordered that an immediate investigation shall be made as to the alleged rapid increase of leprosy in and about Vancouver, and for that purpose Dr. Smith, superintendent of the leper colony of Tracadie, New Brunswick, has been appointed as an expert commissioner to examine and report the true status of leprosy on the Pacific slope of the Dominion.

SOCIETY PROCEEDINGS.

Medical and Chirurgical State Faculty of Maryland.

Ninety-third Annual Session, held at the Hall of the Faculty, Baltimore, April 28, 29 and 30, 1891.

DR. T. A. ASHBY, PRESIDENT, IN THE CHAIR.

Drs. G. L. Taneyhill, Robert T. Wilson and William B. Canfield, Secretaries.

The ninety-third annual session of the Medical and Chirurgical State Faculty of Maryland was called to order at the Hall of the Faculty, corner St. Paul and Saratoga Sts., April 28, at 12 o'clock noon.

REV. G. F. M. ELLIS opened with prayer, after which the minutes of the previous meeting were read, corrected and adopted. After some preliminary announcements, Dr. T. A. ASHBY delivered the President's Address, on the subject:

THE RELATION OF THE MEDICAL AND CHIRURGICAL FACULTY TO PROFESSIONAL ORGANIZATION IN AMERICA.

The Faculty, one of the oldest State organizations extant, was now entering on its ninety-third year. It had had seasons of prosperity and adversity. In its early life in the colonial history of our country, and later during civil strifes, it had suffered and lost strength. At one time, it practically went out of existence. It had at one time the full power to license all practitioners in the State. This power, which had fallen into disuse, was now entirely lost, through the efforts of irregular practitioners. Whether it could be recovered was a question. If the body could be strengthened, the membership increased, and all the respectable members of the profession of the State brought into unity of thought and action, much of the lost power might be regained. The Faculty was now meeting under auspicious circumstances. The semi-annual meetings recently held in Hagerstown and Cambridge had not only added a large number of new members, but had excited renewed interest in various parts

of the State, the result of which was the formation of local societies. The lessening of the annual dues had had a good effect. The Faculty has always had a very poor home. Now it is well housed, and the library which it possesses is in good condition and well taken care of, but the fact that we only rent this hall, gives it a feeling of uncertainty. We should have our own hall. For this an endowment would be necessary, and this could only be obtained by exciting interest among the members. Such a fund would be started as soon as possible. The future outlook of the Faculty was never better. If we cannot have the power to license, we can strengthen ourselves, and form a respectable State Medical Association.

DR. RANDOLPH WINSLOW read a paper entitled:

INJURIES TO THE KIDNEYS.

A man 33 years old, weighing 170 lbs., while driving very fast, was thrown out, and fell violently to the ground. He was much shocked and nervous. Had much pain in right flank. No bladder symptoms. Next morning there was hæmaturia which lasted a week or more. This with other symptoms disappeared, and then his left scrotum and cord were attacked with great pain, left leg was swollen, phlebitis occurred. These symptoms gradually disappeared and case recovered. A careful study of all the symptoms, and the history of previous cases, pointed to a diagnosis of rupture of the kidney. A sudden and heavy fall may cause rupture of the intestinal organs, and the kidney has been frequently so torn. Extirpation may be necessary.

DR. JOHN D. BLAKE read a paper entitled,

SOME CONDITIONS OF THE URETHRA REQUIRING PERINEAL SECTION.

In the discussion which followed, DR. J. E. MICHAEL said he agreed in some points and disagreed in others. When operation is used as a temporizing means, it is a good thing, and when the instrument is used with proper antiseptic precautions, there is no danger. He is skeptical with regard to electricity. He had been very successful in his operation for deep perineal section, and felt safer in this than in attempting to pass bougies and other instruments, causing chills, shocks, etc. A free incision is attended with very little shock.

DR. J. D. BLAKE said he had been much pleased with the use of electricity, and related a case to prove his point.

DR. L. McLANE TIFFANY read a paper entitled *Indications for Treatment in Malignant Diseases of the Mamme.*

DR. JOHN W. CHAMBERS read a paper entitled *Some Observations on Injuries of the Cervical Portion of the Spinal Cord.*

DR. WM. H. WELCH, of the Johns Hopkins University, then delivered the Annual Address. The subject was

THE CAUSATION OF DIPHTHERIA.

The subject is an exceedingly important one, and has been much discussed in the medical journals of the day, but many of the facts are so new that they can with advantage be brought up again. Although the advantages are principally bacteriological, the points brought out will be chiefly those which illustrate the application of these discoveries to a fuller and more correct knowledge of the nature, etiology, pathology, prevention and treatment of diphtheria.

The questions to be answered are, Is diphtheria primarily local or constitutional in its origin? Are all pseudo-membranous inflammations of the throat not directly referable to caustic irritants, diphtheria? Is there a purely local, non-contagious, pseudo-membranous laryngitis, called croup, distinguishable from diphtheria? Are the pseudo-membranous anginae secondary to scarlatina, and less frequently to measles, and some other infectious diseases, identical with diphtheria? Is there any relation between tonsillitis and diphtheria? May diphtheria occur in a mild form as a simple catarrhal inflammation of the throat? Are pneumonia, acute nephritis, suppuration of the glands in the neck, etc., referable to the direct action of the diphtheritic virus? In other words, what lesions belong to the disease and what are complications? Shall reliance be placed chiefly upon local or upon general treatment? These are important practical questions, which a careful study of the disease has not yet answered. Our most recent knowledge on the subject has come through the discovery of the microscopic germ which is the specific cause of diphtheria. There is perhaps no other disease, with the exception of tuberculosis, upon which greater light has been shed, by the discovery of its specific cause, than upon diphtheria. The specific bacillus is called the Klebs-Löffler bacillus. There are three difficulties in the way of proving this. One is the uncertainty as to what is diphtheria, as distinguished from the various anginae associated with scarlet fever, measles, etc. Thus different investigators working with different kinds of anginae would obtain different results. Genuine cases only should be studied. A second difficulty is the large number of bacteria found in the diphtheritic membrane. It must be determined which of these are constantly, and which are instantaneously present and absent in other conditions. We may presume this is the specific cause, and the presumption becomes a certainty, when we can reproduce the disease experimentally. The third difficulty is to prove that our experimental disease is identical with human diphtheria. As by various agencies we can produce on the mucous membrane of the tonsils, pharynx, etc., a fibrinous pseudo-membrane which is not diphtheritic, we cannot rely on the membrane alone as pathognomonic.

Oertel has demonstrated that the diphtheritic virus is a most peculiar poison to the cells of the human body, and that it produces areas of cell death, not only on the surface of the mucous membrane, but also in deep parts, in various lymphatic glands at a distance from the local lesion, and in the spleen. These changes can be shown by histological demonstration. Now if our suspected germ produces the membrane, and all these changes too, and muscular paralysis, then we have strong evidence that it is the specific cause of diphtheria. All these difficulties were not overcome at once, but it is needless to go over each step. It will only be necessary to say that the Klebs Löffler bacillus has been accepted as the specific bacillus of diphtheria. Dr. Welch and Dr. Abbott had proved this, in a series of cases occurring here. The practical value of this discovery will come later.

The specific germ of diphtheria is a bacillus devoid of independent motility, averaging in length about that of the tubercle bacillus. It presents itself, both in diphtheritic membranes and in cultures, in such bizarre forms that these belong to its most characteristic morphological properties. It grows upon various culture media and in milk. It grows readily outside of the body. It has no spores, but is very resistant, a fact which is shown in the viability of the disease in old clothes, rooms, etc., after many years. Diphtheria is without doubt a local disease. It is only found in the upper part of the membranes. The constitutional symptoms are due to the reception into the system of a chemical substance, a poison produced by the bacillus. The germs are conveyed by bits of membranes, saliva, secretion, etc., but the disease is not as easily spread as scarlet fever, nor is the danger from infection through drinking-water as great as with typhus fever. The toxic substances produced by the bacilli are very complex, and worthy of careful study. The difference in epidemics, mild or severe, is not easily explained. Similar differences are noted in experimental diphtheria. The discovery has not yet reached the diagnostic importance of the tubercle bacillus; that is, it cannot be so easily put to use, but for one skilled and equipped in bacteriological research, or in a large hospital, such a method is inestimable. As bacteriological methods become more generally understood, such means of diagnosis will be used. The angina occurring with scarlet fever, etc., are not diphtheria, as the bacteriological examination would show. Other bacteria are frequently but not constantly found. Diphtheria may be communicated from animals to man, and *vice versa*, also by milk. Much elaboration is necessary before this discovery becomes of general practical use.

Naturally, our methods of prophylaxis and treatment will not be materially changed. The

peculiar character of the toxic substances produced by the diphtheritic bacillus furnish the strongest indication for the earliest possible local treatment of diphtheria by germicidal agents, and that an equally urgent indication is the destruction of the poisons circulating in the blood, and, in the existing absence of any such antidote, supporting means of treatment should be used, to render the system capable of withstanding the injurious effect of the poison.

DR. WM. OSLER read a paper entitled

THE HEALING OF TUBERCULOSIS.

That pulmonary tuberculosis is curable, is demonstrated clinically by the recovery of patients in whose sputa elastic tissue and bacilli had been found, and anatomically by the existence of lesions in all stages of healing. Caseous areas may be impregnated with lime salts, or the tuberculous masses may be encapsulated by fibrinous tissue, in which case the substance remains quiescent, and the disease is not cured. Perfect healing does not occur after cavities are formed. A cavity may be much reduced in size, but is not often closed. Laennec did much good work in this direction. He recognized the *cicatrices complètes* and the *cicatrices fistuleuses*, and suggested that as tubercle growing in the glands, which we call scrofula, often healed, why should it not do the same in the lungs. In a large number of autopsies healed or quiescent tubercular lesions have been found in the lungs. This was noticed in 1880 by Palmer Howard, who called attention to the great frequency of puckering at the apices of the lungs in elderly persons.

The following is noted of the apices: 1. Thickening of the pleura, usually the posterior surface of the apex, with perhaps subjacent indication of the lung tissue, for the distance of a few millimetres. 2. Puckered cicatrix at the apex, depressing the pleura, which may, or may not be here thickened. On section, there is a fibrous scar much pigmented, the bronchioles in the neighborhood dilated, but no tubercles or cheesy masses. Such structures are extremely common, and may in some cases indicate a healed tubercular lesion. 3. Puckered cicatrices with a cheesy or cretaceous central nodule, and with scattered tubercles in the vicinity. 4. The *cicatrices fistulense* of Laennec, in which one or more cavities have become quiescent, surrounded with fibroid tissue and communicating with the bronchi. At 1,000 autopsies of his over 59 cases, or 5.05 per cent., were found in which persons dying of other diseases presented undoubted tubercular lesions in the lungs. Of the 59 cases, the causes of death were: Cancer of various organs, 12; cirrhosis of the liver, 7; accidents and operations, 85; acute fever, 9; uræmia, 5; diseases of the head and arteries, 5; other affections, 13. The ages of those cases: Under 10 years, 4; from 10 to 20, 2; from 20 to

30, 8; from 30 to 40, 10; from 40 to 50, 14; from 50 to 60, 14; from 60 to 70, 5; above 70, 2. Heitler, of Vienna, found in 16,562 cases in which the deaths were not directly caused by phthisis, there were 780 instances of obsolete tubercle, or 47 per cent. The simple fibroid induration should be excluded. With each decennial period up to the sixtieth year, the number of cases increased. Bollinger found in 27 per cent. in 400 bodies evidences of tubercular lesions in the lungs. Staudacker, in 737 cases, found apex cirrhosis in 202. Massini found evidences of healing in 39 per cent. in 223 bodies examined. Harris, of Manchester, found in 139 cases 54, or 38.84 per cent., in which there were relics of former active tuberculosis. The greater number of these were in the third, fourth and fifth decades. In the Paris Morgue, it is said that 75 per cent. of suicides and those accidentally killed present evidences of old tubercular lesions.

These facts demonstrate, *first*, the widespread prevalence of tuberculosis; and *secondly*, the fact, as shown by the above figures, that at least one-fourth of all infected persons recover spontaneously. In the great majority of cases, the disease was very limited and had made no progress, and could not have given rise to physical signs. But even in cases further advanced, arrest is by no means infrequent, and if not cured, the condition of arrest is consistent with comparatively robust health.

Once infection has occurred, there are three indications: *first*, to place the person in surroundings most favorable for the maintenance of a maximum degree of health; *second*, to take such measures as in a local or general way influence the tuberculous process; and *third*, to alleviate symptoms which are necessarily associated with the disease. The environment is of the first importance. Trudeau's experiments with free and confined rabbits prove this. A patient confined to the house in close, overheated rooms, or in the stuffy, ill-ventilated dwellings of the poor, or even in hospitals, does not stand the chance with the patient in the fresh air and sunshine all day long. The home treatment of consumption is important. Fresh air and sunshine are all-essential. Altitude is a secondary consideration in comparison with these.

Koch's lymph or tuberculin has a very limited use. 1. In a limited number of cases with early local lesions, and not much constitutional disturbance, its use seems beneficial; the cough disappears; the patient gains in weight, and the local signs improve. In none of these, however, after a four months' treatment, can we say there is a cure. 2. In cases with more advanced lesions, particularly with consolidation, the febrile reaction induced is severe, the local condition is aggravated, and the patients lose ground, often with rapidity. 3. In advanced cases, with cavities and

irregular pyrexia, the remedy is most injurious, and aggravates every feature of the disease.

Of measures which influence the general condition, apart from hygiene and diet, there are four which have stood the test of experience—cod-liver oil, the hypophosphites, arsenic and creosote, all of which act by improving the nutrition, and rendering the tissues more resistant, the soil less suitable, for the growth and development of the tubercle bacilli.

In the discussion which followed, DR. WM. H. WELCH said there were two points of importance to be considered: What is our interpretation of the lesions at this apex? What are these fibroid thickenings at the apex? The most frequent lesion found at the apex is a thickening, a slate-colored induration. This contained no caseous nodules, nor calcareous products. Are these healed tuberculosis? If so, then the number of healed cases is large. We cannot say. But even if we leave these out, we have many genuine cases of healed tuberculosis, where there were tubercle bacilli in the sputum. Does it all depend upon the character of the soil on which the bacilli have to grow? There is some doubt on this point. They may vary in their virulence, and some may be of an attenuated character. As high an authority as Koch does not admit this, and this has great weight. Trudeau has reported a case of milary tuberculosis in which the bacilli were of a very weak character, and Nuttall, in the Johns Hopkins Pathological Laboratory, found a few instances in which the inoculation of genuine pure culture of tubercle bacilli in guinea pigs, usually very susceptible animals, simply caused a localized tuberculosis.

DR. JOSEPH T. SMITH thought the importance of the home treatment could not be too strongly emphasized.

DR. WM. OSLER, in reply to Dr. Branham, said in treating cases with Koch's tuberculin, he used no other therapeutic means. These cases in the hospital now are all doing well. In no case have the bacilli disappeared, but he was glad to say that no case had died under his treatment there, which was probably because all cases treated there had been carefully picked, and only those in the earliest stages had been treated.

DR. JOSEPH T. SMITH then read a paper entitled

THE TREATMENT OF DIPHTHERIA,

in which he discussed the following points: 1. The effect of isolation and disinfection in the spread of the disease. 2. The need of alcohol and iron to influence for good the heart and blood-vessels, and the value of milk as the article of diet. 3. The need of quiet or rest in bed, and the importance of looking upon these as governing our choice of applications to the throat and other forms of medication. 4. The necessity of

calling early upon the surgeon when the disease invades the larynx. 5. The value of as great cleanliness of the pharynx and nares as the condition of the patient will permit.

There are three vexed questions which still await answer: 1. How shall the membrane be dissolved? 2. How shall the bacilli be destroyed at the seat of infection? 3. What is the antidote to the poison? This paper was discussed by Drs. A. K. Bond, W. A. B. Sellman and W. Brunton.

Dr. J. E. MICHAEL read a paper on *Obstetrical Antisepsis*, which was discussed by Drs. Geo. H. Rohé, J. M. Craighill, J. D. Blake, J. G. Wiltshire, A. Friedenwald and W. S. Gardner.

Dr. W. S. GARDNER read a paper entitled *Milk Fever*, which was discussed by Dr. J. E. Michael.

Dr. ROBERT T. WILSON read a paper entitled *Circumscribed Peritoneal Dropsy simulating Ovarian Dropsy*.

Dr. GEO. H. ROHÉ read a paper entitled *The Sanitary Importance of Free Baths*.

Dr. H. NEWELL MARTIN read a paper entitled *Recent Discoveries in the Physiology of Ganglion Cells*.

Dr. J. C. HEMMETER read a paper entitled *The Influence of Digitalis, Ergot and Alcohol on the Blood Fluid*.

Dr. H. N. MARTIN read a paper entitled *The Vaso-Motor Nerves of the Heart*.

Dr. W. T. COUNCILMAN read a paper entitled

THE FORM OF DYSENTERY PRODUCED BY THE AMEBA COLI.

Dysentery, as a word, was first used in a clinical sense. It meant tenesmus. It is an inflammation of the large intestine. The pathological lesions are exceedingly numerous and varied. It would be absurd to suppose that all forms of dysentery come from the same cause, just as in pneumonia. The pulse is rapid. The case may last several months. In the anatomical lesions which are produced there is much variation. Some die before ulceration begins, and other cases are not so virulent. The lesions are in the submucous tissue. Clinically the disease is chronic. It begins with a diarrhoea. It is intermittent in character, may last for a month, stop, and then break out again. There is no pain in the earlier stages, but later there is pain; the diarrhoea becomes worse, and there is tenesmus. The stools are mixed with blood. There is usually no fever in the entire course of the disease, emaciation still goes on. The duration may be from three to six months. Towards the last the complexion assumes a dull, earthy-like color. There is nothing distinctive in the stools; they are always fluid, and considerable in amount. When these patients die, the anatomical lesions are exceedingly characteristic. There is entire absence of diphtheritic exudation, which one finds in the

acute cases, and the surface of the bowel shows numerous ulcerations. These ulcers are relatively small, and the surface is mammilated. There is a small loss of substance at the apex of these elevations, and an abscess cavity, and on this a depression is filled with an opaque greyish, gelatinous-looking mass. The entire intestine is much thickened, the muscular coat thickened. Then large ulcers can be found which run into each other, so that we may have long, sinuous passages running through the intestines in various directions, and the membrane becomes undermined, sloughs and falls off. It extends to the mucosa and the muscular coat, and large sloughs are cast off. The microscopic characteristic appearance is evident. The amount of sloughing is often extreme, some as large as the hand.

This is interesting from the complications. The most frequent is the abscess of the liver. He had seen at the Johns Hopkins Hospital eleven cases of this form, of which five died and three are still under treatment. Of these eleven cases, four deaths occurred from liver abscess, and one case of liver abscess is still under treatment. The abscesses of the liver are fully as characteristic as in the intestinal ulceration. The liver abscesses are filled with a gelatinous-looking mass. If they are larger they may have a distinct fibrous form, and look like other forms of abscess.

The next most common complication is abscess of the lung. The formation of abscess of the lung is interesting. In four cases at the hospital, three had abscesses of the lung. The lung abscess comes from the liver abscess. The liver abscess is on the upper surface of the liver. There is an adhesive pleuritis and the lung abscess follows. It is very insidious in its outset, there is always pyrexia, abdominal pain and much sweating. When the lung complication takes place, the appearance of the sputum is characteristic—tough, of dingy cherry-red color, as in acute pneumonia, so that the spit-cup can be turned up without the sputum running out. The sputum also contains small masses of necrotic tissue, lung tissue. The cause of the disease has long been suspected. Davaine, in 1853, described the cercomonas in the stools. Then Lauder, in Prague, found small amebæ in the stools of a child which had died of dysentery, also in cholera. Cholera patients in India by Cunningham and Lewis. Lersch, of St. Petersburg, was the first to describe this as we now know it. It is an ameba *Amœba coli* of an inch in length. It is either round or is undergoing movements. The outer part is a homogeneous mass, and the inner part is filled with granular matter. The movements are active, and its large size makes it easy to study under a low-power microscope. It may be seen to change its form and shape under the microscope. It puts out its pseudopodia and draws them in again. It is found in the stools, in the abscess of the liver and

lung. We find in it things which the organism has taken up for food, as, for example, red blood-corpuscles. The organism may be seen in the microphotographs which are passed around. He thought this form of disease was not so uncommon as many thought. He had tried to find the geographical range of the disease. Woodward also had written largely on dysentery, had recorded 693 deaths from intestinal affection.

DR. WM. OSLER thought the form very peculiar and destructive. He referred to one case he had seen in consultation.

DR. A. FRIEDENWALD thought that Woodward's cases died too soon to have the abscess occur. They develop late in the disease.

DR. J. C. HEMMETER asked if the amœbæ had been clarified, and if they had been artificially cultivated.

DR. W. T. COUNCILMAN said that Cunningham, in 1879, had cultivated them, not in pure culture, and had possibly found these forms. He used a strong solution of cow dung. Another investigator had obtained a pure culture and produced the disease in cats. Most animals are immune from injection of the stools. He regarded the amœba as the undoubted cause of the disease.

DR. HIRAM WOODS read a paper entitled

BLINDNESS IN THE UNITED STATES,

in which he quoted numerous statistics to show increase in blindness, particularly among the poor, principally from ophthalmia neonatorum. He recommended the more widespread caution to the poor that could be distributed throughout the city, in the hospitals, dispensaries and station-houses. At his suggestion, the President appointed Drs. Hiram Woods, A. Friedenwald, J. E. Michael and G. H. Rohé, a committee of four to attend to this.

DR. FRIEDENWALD thought it was the best paper he had ever heard on the subject. The difficulty is not want of knowledge, but carelessness, which causes blindness in the newborn.

DR. GEO. H. ROHÉ referred to the absence of ophthalmia neonatorum at the Maryland Maternity, in a large number of births.

DR. R. L. RANDOLPH thought that emphasis should be laid especially on the quantity of the silver nitrate used. Too strong a solution acts as a caustic. In a child, the secretion of tears is scant, and there is less chance of an excess of the agent being neutralized. More than one drop should not be used.

DR. W. T. CATHELL then read a paper on *Enlarged Tonsils and their Detrimental Effect on Health and Development*.

DR. J. W. HUMERICHOUSE, of Hagerstown, read a paper entitled *Four Cases of Diphtheritic Laryngitis* in which intubation was performed with one recovery, and one case of recovery without operation.

The following volunteer papers were read:

"The Physical Training of the Feeble-minded," by Dr. Samuel J. Fort.

"The Revival in Physical Training and Hygiene," by Dr. Edwin M. Shaeffer.

"A Second Series of 100 Cases of Labor at the Maryland Maternity," by Drs. Geo. H. Rohé and Samuel H. Allen.

"Two Cases of Bilateral Homonymous Hemianopsia," by Dr. Geo. J. Preston.

"Acute Miliary Tuberculosis treated with Tuberculin," by Dr. Jno. C. Hemmeter.

"Certain Pathological Effects of Aneurism," by Dr. N. G. Kierle.

"Intra-uterine Diseases of the Eye," by Dr. J. J. Chisolm.

"The Function of the Omentum," by Dr. Howard A. Kelly.

"Two Obstetric Cases," by Dr. W. Brinton.

"A Case of Cancer of the Bladder" (with specimen), by Dr. Jas. Brown.

"Supra-vaginal Hysterectomy," by Dr. Thos. Opie.

The following were elected for the ensuing year:

President—Dr. W. H. Welch.

Vice-Presidents—Drs. J. W. Humerichouse and David Street.

Secretaries—Drs. G. L. Taneyhill, R. T. Wilson, J. T. Smith and Wm. B. Canfield.

Treasurer—Dr. W. F. A. Kemp.

St. Louis Medical Society.

Stated Meeting Saturday, January 31, 1891.

THE VICE-PRESIDENT, DR. J. C. MULHALL,
IN THE CHAIR.

[Abstracted for THE JOURNAL.]

DR. H. C. DALTON presented the following specimens with sketches of the corresponding cases:

DIAPHRAGMATIC HERNIA, TRAUMATIC.

The case was a man, æt. 26, who received a stab wound two and one-half years before, in the left thorax at the seventh intercostal space and two inches posterior to mammary line. Patient entered hospital at the time of this injury, and was discharged apparently cured in a few days. January 22, 1891, he was readmitted to hospital, suffering greatly. Pulse 90, temperature 103. Five days before admission he had severe pain in umbilical region, and bowels had not moved, despite efforts to that end. Vomited first day of attack, not since. Abdomen swollen and hard. Pain constant and increased on pressure. Consulting surgeons advised laparotomy, though a clear diagnosis was not made previous to the operation.

Abdomen was opened and a general peritonitis found. Upon search a diaphragmatic opening

was discovered through which all the omentum and twelve or fifteen inches of the colon had passed into the left thoracic cavity. Efforts to withdraw the mass were fruitless, and a slight incision of the diaphragm was made, when reduction at once occurred. Patient was very weak after the operation, and died in four hours. Undoubtedly the diaphragm was cut through at the time of the stab injury over two years since, leaving a weakened cicatrix which eventually gave way in front of abdominal pressure.

The specimen was presented showing the pathological condition.

In commenting upon the case Dr. Dalton said the literature upon the subject of diaphragmatic hernia was very meagre, surgical authorities referring to it but briefly.

LACERATION OF MESENTERY; RESECTION OF ILEUM.

Patient aged 48. Eleven and one-half hours before admission to hospital patient fell from a wagon, and while on the ground a companion jumped from the wagon landing on patient's abdomen with both feet. Great pain, abdomen swollen and tender. T. 103, P. 132. Laparotomy. Two quarts of blood were washed out of the peritoneal cavity. Mesentery of ileum was found torn entirely through for about a foot parallel to and about two inches from the gut. Intestine was dark, and showed commencing gangrene. One foot of ileum was resected by V-shaped incision and circular enterorrhaphy. Patient died ten hours after operation.

Uterine Fibroid.—Delivered from vagina after strong expulsive efforts of uterus and adjunct muscles. Attached to fundus uteri by small pedicle, which was broken and mass removed with but little hæmorrhage.

TREPHINING FOR SEVERE HEADACHE.

DR. T. F. PREWITT presented a case in which not only was the pain relieved, but a restoration of the function of the eye was had after blindness had continued for nine years.

DR. WILLIAMS inquired what were the ophthalmoscopic appearances of the optic disc?

DR. BREMER replied that the eye was absolutely normal so far as could be seen.

DR. A. B. SHAW thought the result rather tended to confuse the location of the centre of sight, the opening in this case being much above either the annular gyrus or cuneus, high up over the first occipital convolutions in the region of the posterior fontanelle. The speaker felt that in the light of our present returns regarding cerebral surgery a greater boldness was permissible.

DR. DICKINSON said that a few sources of the origin of the optic nerve are distinct and demonstrated, but the entire number is infinite. The entire cerebral cortex doubtless contributes.

THE PRESIDENT spoke at considerable length and with much clearness about the case, having had a knowledge of the peculiarities previous to the operation. He said the question of hysteria could be eliminated entirely, and that the outcome of the operation, as to the restoration of sight to the patient, was indeed a wonderful achievement. The operation was done for the relief of the intense pain, and without a thought of any effect upon the vision. The case should be carefully watched, and the permanency of the results noted.

DOMESTIC CORRESPONDENCE.

Ovariectomy as a Prophylaxis and Cure for Insanity.

To the Editor:—I wrote an article on this subject in March of this year. I further report concerning the same case.

Miss Ada N., age 28, had been insane for 13 years, when on February 4, 1891, I made my first ovariectomy upon her, with the result as shown in my article of March, 1891. The young lady continues to improve mentally and physically. Hers was a case of hysterical insanity, although the case had been for 13 years pronounced a case of dementia. As stated in my first article she had had scarlet fever at 13 years of age; just at the time when the ovaria were developing into active maturity, and were consequently checked and diseased. She complained of ovarian pain for years, increased at each menstrual epoch. Now here is one of those cases wherein the sympathetic nervous system was at fault and not, as was frequently diagnosed, "mental disease." This case illustrates beautifully the reflex effect of disease of the generative organs.

The patient is now undergoing an "artificial change of life."

Her present condition and symptoms are precisely those of the menopause. She has not uttered one irrational word since the removal of the ovaria. Her former pain and symptoms have entirely subsided. She talks freely and rationally, and is daily gaining strength. I should like to hear from some of the readers of THE JOURNAL upon this case.

Diagnosis:—I believe too much care cannot be exercised in discriminating between real and pseudo insanity. In this case of Miss N., there was abundant evidence in favor of the theory that scarlet fever was the cause of her insanity, as having produced structural lesion in the brain; but at the same time there appeared positive evidence of ovarian irritation which had been present from the very beginning of menstruation; yet the fact appears to have been lost sight of by every medical man under whose eye the girl had passed. I am compelled to say, and that without egotism, I trust, that specialists are too liable to lose sight of general symptoms and signs and form or base their opinions upon points or signs peculiar only to their respective specialities, thereby being not infrequently misled from a lack of power in generalizing such cases.

I shall report the future condition of this lady from time to time and acquaint the readers of this JOURNAL with her future state of mental and physical health.

Case 2.—Miss J. W., Elizabeth, Ill., age 28 years. Fair health; medium height; blonde. Has been in poor health since menstruation made its appearance.

I was called to Elizabeth, Ill., on March 1st, of this year, to examine and pass my opinion upon this lady's case. I found a fine looking young lady confined in

an iron cage. Miss W. had been confined for something over two years; she had not a stitch of clothing on her person, nor had she been able to keep any clothing on her for two years. She would tear every thing in the way of cloth to shreds; even carpets they could not keep tacked to the floor. She had a mania for tearing and destroying things that were placed in her cage; therefore the only article in the shape of cloth that she could not mutilate was the heaviest sailing cloth, and of which cloth her mattress (that being the only article movable in her cage) was made, also one very tough sheep skin which constituted her sole bed covering. In this condition I found Miss W. Her language was continually abusive, profane and obscene. She appeared to possess a grudge against all men. The presence of a man would always excite obscene and profane language. She was constantly, during the day time, climbing to the ceiling of her cage and would drop herself down on her hip to the floor, seemingly endeavoring to kill herself or hurt herself in order to get relief from her pain. She would turn complete summersaults forward or backward; she would run up and down her cage, scream, swear and tear her hair and in every way possible abuse her body. When quiet, she would lie down, doubled up like a four legged animal; showing conclusively that a relaxation of the abdominal muscles was a relief to her pain. She would go for days without a bite to eat. She would defecate on the floor most of the time; having only straw on the floor it was periodically removed, and this could be done only by the help of several attendants. In this terrible plight I first saw Miss W.

Diagnosis.—With the assistance of three strong men I entered her cage to examine her, she being thrown down and her face covered with an ordinary base ball mask, and hands and feet bound down and held by the attendants. I proceeded to examine the case. I found the heart very much hypertrophied, from over exercise. Lungs sound. Bowels tender and mesenteric glands very much enlarged; both the ovaries were large, tender and very much displaced downward. Upon touching the finger against the clitoris and vagina, she began to work up and down as in the act of intercourse and began a volley of obscene language, which she kept up during the digital examination. I could come to no other conclusion than that this was a case of ovarian disease with that nymphomaniac tendency which were in all probability the primary causes of her insanity.

The history of the case from the very beginning of menstruation tended to show that there was ovarian disease, but she had been simply regarded as a little cranky from girlhood up to 23 years old, when she had a low affair with a young doctor who they claim had probably insulted her, when all at once she became demented and was submitted to Elgin, Ill., asylum, where she remained two years.

Treatment.—Having diagnosed this case of ovarian trouble, I suggested an immediate operation of removing the offending organs. Accordingly with my first assistant I started from Racine, March 1st, and proceeded to Elizabeth, Ill., where on March 2nd, I performed the operation of ovariectomy.

I found, as predicted, both ovaries, with their tubes, badly diseased, being in a fibro-cystic condition; both tubes were four times the usual size, congested and in a state of pyosalpinx. There was downward dislocation of both organs with extensive adhesions. The peritoneum in the region of the organs was much thickened and congested, presenting a yellowish pink color, showing conclusively a congestion of long duration; the effect of the operation wore away in a few hours, when she emerged from it feeling weak and tired. She presented a different facial aspect within forty-eight hours; that peculiar idiotic terrible set expression had gone. She talked quite rationally most of the time for ten days, calling for the bed pan and otherwise showing a great change. She talked of many things which had happened years ago.

She recognized all her relatives and seemed quite rational. She would ask pleasantly for food and drink, and express her thanks when anything was done for her comfort. Her family generally expressed their feeling that reason had indeed resumed her sway. Her former obscene language and profanity had entirely been forgotten. Her actions were quite right. She did not need to be tied. After the fifteenth day she began to tear a little, although she used no bad language nor talked insensibly. After twenty-one days, which time was her usual time for menstruation, she appeared to grow more normal mentally, but nothing of her former trouble has yet shown itself. I should like to hear the opinion of the profession upon this case.

I shall write again upon this case and give full particulars. I do not attempt here to offer anything original or new in the treatment of insanity, nor revise the long since tried treatment of ovariectomy for insanity, but simply to show what may be accomplished in certain cases.

I am a young and inexperienced surgeon and am open to any criticism my professional brethren may see fit to offer. This is my fourth ovariectomy for insanity. The third case I shall endeavor to report next month, it being one of marked diagnostic interest.

DR. ROBERT A. KITTO.

Idiosyncrasy Towards Eggs.

To the Editor.—I desire to place on record the following: A lady 27 years of age, has since a child never been able to eat an egg without suffering an attack of cholera morbus (to all appearances). The same condition occurs when she eats them in any form, as cake, etc., or any method of preparing them. The lady is in all other respects normal and in good health and development.

J. CH. DODDS, M.D.

Denver, Col.

NECROLOGY.

I. L. Drake, M.D.

At the regular meeting of the Lebanon Medical Society, held in Lebanon, Ohio, May 26, 1891, the following resolutions were unanimously adopted:

WHEREAS, It has pleased Almighty God to remove from his earthly sphere our worthy professional associate, Dr. I. L. Drake, of Lebanon, Ohio, one of the oldest, ablest, most devoted and useful members of this society; we, his surviving brothers, deeply conscious of the loss we have sustained, wish formally to record our high appreciation of his character, his work and his worth: be it, therefore,

Resolved. That we hereby express our sincere grief for the sadly sudden death of our friend; an elegant, cultivated, affable gentleman: active, earnest, patient in his search after truth: constant, courageous and firm in maintaining the right as he saw it; an honest christian man. In obedience to the Almighty power that rules the destinies of men, that can build up or cast down, that can give or take away, we bow in humble submission about the bier of our departed fellow member and professional brother.

Resolved. That we most heartily tender to Dr. Drake's bereaved family and relatives this expression of our profound sympathy, and the acknowledgement, that in his

death we lose a true and cherished friend and co-laborer; and be it further

Resolved, That a copy of these resolutions be sent to the family of the deceased, and that they be furnished to the papers of Lebanon, the *Cincinnati-Lancet Clinic*, and to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

B. H. Blair, R. S. Michel, Jno. Wright, E. J. Tichenor, H. J. Death, S. S. Scoville.

DR. KARL BRAUN VON FERNWALD, the eminent professor and author, of the Vienna University, died during the last week in March. He was appointed to the chair of midwifery and became the head of the famous gynecological Klinik over thirty years ago. His writings have been among the most sought after of those devoted to his chosen subjects and he enjoyed a pre-eminent popularity among the Viennese students. He was in the seventieth year of his age and the fortieth year of obstetric teaching, at the time his death.

DR. ALFRED HOSMER, who died May 14, at Watertown, Mass., was one of the ex-presidents of the Massachusetts State Medical Society, and formerly a member of the State Board of Health and Charity. He was one of the founders of the Medico-Legal Society and a medical examiner for fourteen years. He was also, for many years, the post-surgeon of the United States Arsenal at Watertown. He was a frequent contributor to the medical journals on obstetrical and medico-legal subjects. He was in his sixtieth year.

DR. OTIS STANTON, of Washington, D. C., died April 9, in his fifty-third year. He was a native of Strafford, New Hampshire, having been born there October 22, 1837. He obtained his medical education at the Bowdoin College, graduating in the class of 1862. In that same year he became acting assistant surgeon and served in and around Washington until the latter part of 1865. He then took up practice at that city, giving special attention to gynecology. He was a member of the board of directors of the Columbia Hospital for Women and Lying-in Asylum. He was a corresponding member of the Gynecological Society of Boston. His death took place after a brief illness by pneumonia superinduced by epidemic influenza.

MISCELLANY.

RESIGNATION AND APPOINTMENT.—Dr. J. B. Hamilton, Surgeon-General of the United States Marine-Hospital Service, has resigned in order to enable him to accept of the Professorship of Principles of Surgery in Rush Medical College. Dr. Walter Wyman succeeds Dr. Hamilton in the National Service.

Dr. Hamilton's marked success as a sanitarian, and ability to grasp at once and meet the necessities of any

situation of threatened danger from epidemic disease, are familiar to every reader of current history.

Many regrets will be expressed at his retirement from a position where his services have been of inestimable value to the entire country, while his appointment as one of the faculty of Rush cannot but add to the already prosperous condition of this well-known school of medicine.

Dr. Walter Wyman is the legitimate successor of Dr. Hamilton, and will no doubt fully sustain the enviable reputation of his predecessor.

WASHINGTON STATE MEDICAL SOCIETY.—The second annual meeting of the Washington State Medical Society, held in Seattle, May 6 to 8, was largely attended. Papers on the following subjects were read and ordered printed with the proceedings of the meeting:

Annual Address, by C. K. Merriam, Spokane.
Anatomy, Dr. E. E. Heg, North Yakima.
Physiology, Dr. H. P. Tuttle.
General Surgery, Dr. N. Fred. Essig, Spokane.
Abdominal Surgery, Dr. E. L. Smith, Seattle.
Surgery of the Brain, Dr. J. B. Wintermuth, Tacoma.
Genito-Urinary Surgery, Dr. C. H. Willison, Port Townsend.

Report on Obstetrics and Gynecology, by Dr. J. J. McKone, Tacoma.

"Do Maternal Impressions Affect the Fœtus in Utero?" by Dr. T. V. Goodspeed, Seattle.

"Treatment of the Insane," Dr. J. W. Waughop, Steilacoom.

"Analgesia of the Insane," Dr. W. J. Redpath, Steilacoom.

"On the Existence of an Intellectual Center," Dr. G. S. Armstrong, Olympia.

"Increased Reflexes and Allied Phenomena," Dr. C. W. Sharples, Seattle.

"Importance of Free Nasal Respiration," Dr. A. B. Kibbe, Seattle.

The following officers were elected for the ensuing year:

President, H. C. Willison, Port Townsend.
First Vice-President, G. W. Libby, Spokane.
Second Vice-President, H. P. Tuttle, Tacoma.
Secretary, Elmer E. Heg, North Yakima.
Treasurer, James B. Eagleston, Seattle.

Next meeting will be held in North Yakima, Washington, beginning the second Wednesday in May, 1892, and continue for three days. ELMER E. HEG, Sec'y.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 23, 1891, to May 29, 1892.

Capt. Paul B. Brown, Asst. Surgeon U. S. A., is granted leave of absence for one month, with permission to apply for an extension of one month. Par. 4, S. O. 59, Dept. of the Missouri, St. Louis, May 26, 1891.

Capt. Mulhorough C. Wyeth, Asst. Surgeon, granted leave of absence for three months, on surgeon's certificate of disability. By direction of the Secretary of War. Par. 6, S. O. 119, A. G. O., Washington, May 25, 1891.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending May 23, 1891.

Surgeon John Vansant, granted leave of absence for seven days. May 22, 1891.

Surgeon Fairfax Irwin, granted leave of absence for twenty-one days. May 11, 1891.

Asst. Surgeon G. M. Guitéras, relieved from special duty at New York City; ordered to San Francisco, Cal. May 11, 1891.

Asst. Surgeon J. F. Groenevelt, relieved from duty at New York Marine-Hospital; ordered to Gulf Quarantine. May 22, 1891.

Asst. Surgeon G. B. Young, granted leave of absence for thirty days. May 11, 1891.

PROMOTIONS.

P. A. Surgeon T. B. Perry, commissioned as such by the President. May 23, 1891.

P. A. Surgeon R. M. Woodward, commissioned as such by the President. May 23, 1891.

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ORIGINAL ARTICLES.

THE PREVALENCE OF ALBUMINURIA IN PERSONS APPARENTLY HEALTHY.

*Read in the Section of Practice of Medicine and Physiology at the
Forty-second Annual Meeting of the American Medical Association,
held at Washington, D. C., May 5-8, 1891.*

BY WILLIAM B. DAVIS, A.M., M.D.,

OF CINCINNATI.

I read a paper before the American Medical Association at its Forty-first Annual Meeting, held in Nashville, Tenn., May 20th, 1890, on the subject of "Functional Albuminuria, or Albuminuria in Persons Apparently Healthy," in which I reported a case which had been under my observation for five years. On March 5th of this year, 1891, I made a careful urinalysis of this person's twenty-four-hours' urine, examining separately each specimen as voided, and then mixing them together and again examining a sample of the whole quantity. The tests used were cold nitric acid,—contact method,—and boiling, then adding a drop or two of nitric acid and again boiling. The following are the results, viz.:

	COLOR.	RE- ACTION	SPEC. GRAV.	ALBUMEN
Urine passed at 7 A.M.	Dark straw	Acid	1.020	No albumen.
" " 11 A.M.	Straw.	"	1.020	Faint trace.
" " 3:15 P.M.	"	"	1.028	Faint trace.
" " 7 P.M.	"	"	1.020	Faint trace.
" " 9 P.M.	Dark Straw	"	1.028	Small quantity
" " 10 P.M.	Straw	"	1.020	A trace.

Whole amount of twenty-four hours' urine, 32 ounces; reaction, acid; color, dark straw; specific gravity, 1.025; albumen, a faint trace. Without the addition of the 9 P.M. urine, albumen was not discoverable. The 9 P.M. urine was the only sample which gave any deposit of sediment after standing twenty-four hours. A microscopical examination of this sediment resulted as follows, viz.:

1. *Casts.* Only an occasional hyaline cast.
 2. *Crystals.* Calcium oxalate crystals present in great numbers.
 3. *Epithelium.* Pavement and small round bladder epithelial cells present in small numbers.
- Another examination of his urine was made on March 21st, 1891, with about the same results, except that less reaction was obtained than on any former examination. The night urine con-

tained no albumen, and the urine passed two hours after his mid-day lunch contained the most albumen; after standing twenty-four hours it constituted one-twentieth of the urine in the test tube. The specific gravity of the twenty-four hours' urine was 1.028, reaction acid, color dark straw. During the six years he has been under my observation his twenty-four hours' urine has never exceeded 40 ounces in quantity and the specific gravity has never been lower than 1.020. His early morning urine has never contained albumen, although it has invariably been present in small quantity at some hour later in the day. He has always been, and still is in the best of health seemingly. He has not had a day's illness in ten years. He has not had rheumatism, gout, lead poisoning, syphilis, nephritis, dyspepsia or dropsy. No member of his family has had any of the above diseases or any history of Bright's disease. In his case there is no increase of vascular tension, no cardiac hypertrophy, palpitation or dyspnea, and no retinal symptoms. He is 36 years of age, temperate in all his habits, happily married, prosperous in his business, resides in a suburban home where he spends his time after business hours. This case of albuminuria, which I present to you, is not a hypothetical,—a supposititious case, such as our learned brethren of the bar are accustomed to fire at the unfortunate disciples of Esculapius. When they get them at short range upon the witness stand, but he is a living being, like ourselves, who has been under my observation for the past six years. His case is not an exceptional one, but a typical one, and has been observed, studied and recorded the world over. Payr designates this condition as "cyclical albuminuria." Senator, who fully endorses Payr's observations, prefers the term "paroxysmal," while other equally eminent observers believe that "intermittent" is the best name for it. I shall not consume any time in the discussion of the merits of these particular names, but shall speak of this form of albuminuria, and the other forms which may occur in persons apparently healthy, as "functional albuminuria."

Now what is the clinical significance of the albuminuria in a case like this? If this man had not made application for life insurance six years

ago, no one, up to this date, would have known, or even suspected that anything was the matter with him. For all practical purposes he was and is a perfect specimen of manhood. During these six years he has become the father of three healthy children, has amassed a fortune in his business, is a public spirited citizen, and prominent in all benevolent and church work.

During the past fifty years albuminuria has been regarded as the one infallible symptom—if not synonym—of Bright's disease. As a consequence, the patient in whose urine albumen was found, was regarded as a doomed man, as Bright's disease was believed to be necessarily fatal. After a time, however, it was found that albuminuria was frequently present in other diseases, as for example, pregnancy, the puerperal state, zymotic and other febrile diseases, lead poisoning, etc. These discoveries modified its significance somewhat, but did not materially reduce the gravity of its presence in other cases. Then, such a veteran authority as Prof. Geo. Johnson asserted that albumen, to a large amount, may be constantly present in the urine of men, women and children who are apparently in good health, and he even went so far as to say that "it has been proven by abundant experience that the mere fact of albumen, even in large amount, filtering through the walls of the malpighian capillaries does not seriously, if at all, interfere with the proper excretory function of the convoluted tubes."

Then, Finlayson, Mahomed, Fraser, and other eminent authors,¹ demonstrated that structural disease of the kidneys, or Bright's disease may actually be existant without albuminuria, and Prof. Fraser informs the profession that "albumen is only one symptom" and that all forms of Bright's disease are accompanied by other symptoms.

Then, Prof. Grainger Stewart makes the remarkable statement "that cases of Bright's disease do not account for one-half of the cases of albuminuria met with in practice," and Dr. Saundby, in his recent work on Bright's disease, makes this astounding utterance: "The practical outcome of the study of the incidence of albuminuria in the sick and the healthy should be to extinguish altogether the pernicious doctrine that albuminuria means organic disease of the kidneys, a doctrine less harmful than the equally fallacious one that organic disease of the kidneys is a rapidly fatal disease." And then the *British Medical Journal*, in a leading editorial makes the broad announcement that "albuminous urine is no longer the equivalent expression for Bright's disease," and says "the attention of the profession, during the last few years, has been called to the fact, by repeated observations, that al-

bumen may be found in the urine of persons who do not exhibit any of the general symptoms of Bright's disease, nor even any evidence of any deterioration of health." Finally, Prof. Moxon, after relating the various causes which will produce temporary albuminuria, says: "Albuminuria becomes in relation to disorders of the renal system what neuralgia is to disorders of the nervous system, or what dyspnea is in disorders of the respiratory system—a name of a symptom—which is on the very outskirts of an intimate knowledge of any case, and thus albuminuria, as Dr. Bright knew it, becomes by-gone and historic."

These utterances from such authoritative sources are sufficient to warrant the opinion that the significance of albuminuria, as first announced, was overestimated; nevertheless, its grave significance is so thoroughly ingrained in the profession that we can scarcely admit of any other condition than a pathological one as being compatible with its presence.

Prevalence of Albuminuria.—Until a few years since, it would have been considered rank heresy for any person to have suggested that albuminuria was compatible with any other condition than that of organic renal disease, and a physician would have been looked upon as somewhat unbalanced in his mind who would have asserted that albuminuria would occasionally be found in persons apparently healthy, but now the medical press, in both Europe and America, claim that it has been found in a large percentage of people otherwise healthy; and this claim has been supported by so many eminent physicians the world over, that there seems to be no doubt of its correctness.

In our country Shepherd found albumen in the urine of 2 per cent. of 35,471 persons examined. Washburn, of Milwaukee, found it in 5.91 of 338 examinations of healthy persons for Life Assurance. Munn found it in 11 per cent. of a large number of individuals "who considered themselves perfectly healthy." Edes states that the presence of albumen in minute traces, or something that gives a similar reaction with the most delicate re-agents, is much more common than its absence, and the amount detectable by heat and nitric acid may be approximately stated as from 10 to 20 per cent. of persons examined.

In Great Britain and in Europe larger percentages have been found. Grainger Stewart, in a report to the Royal Society of Edinburgh, stated that he found albumen present in 31 per cent. of 407 urines from healthy individuals and he concluded his report by saying "that albuminuria is much more common among presumably healthy people than was formerly supposed, tests having demonstrated its presence in nearly one third of the population."

Dr. Turner, Medical Officer of Essex County

¹ Dr. Purdy, of Chicago, in 1888, collected from Gay's and other hospital reports, 259 cases of chronic Bright's disease in which albumen was present in only 68 cases, leaving 191 cases, nearly 74 per cent., in which albumen was absent.

Insane Asylum, England, found albumen in the urine of 40.2 per cent. of 200 male inmates, and in another Insane Asylum, Kleudgen found albumen in 43 per cent. of the healthy nurses. Stirling found it in 44 per cent. of 461 healthy adults examined by him; Capitan found it in 45 per cent. and in children 80 per cent.; De la Celle-Chateaubourg says it may be found at times in the urine of 76 per cent. to 100 per cent. of healthy persons, both young adults and children; Posner asserts that he has proven the existence of albumen in all normal urine, and his experiments have received the stamp of approval from such men as Senator, Duden, Leube and V. Noorden. Washburn, of Milwaukee, in *The Medical News* April 5th, 1890, says that in order to verify the claim of Posner, he tested with picric acid by the contact method, and also with the phenic acetic test, and with a solution of citric acid of a specific gravity of 1.008 by the same method, samples of urine from fifty persons in perfect health, all living in good sanitary surroundings, and "in every instance, at the line of contact of the two fluids, the characteristic cloud appeared with more or less distinctness indicating the presence of an albuminoid."

Prof. Senator, of Berlin, in his recent work entitled "Albuminuria in its Physiological and Clinical Relations" Berlin, 1890, says "the more complete methods of investigation and the application of delicate tests have had as a result the discovery that albumen is frequently found in the urine of men who exhibit neither objective nor subjective symptoms of disturbances of health, and who after a long continued observation, appear to be perfectly healthy." From the reports of a number of the best authors, he says: "we are warranted in believing that albumen is found in the urine without any other discoverable pathological changes, in a surprising number of cases. Forty-one out of every one hundred healthy, strong men, especially soldiers, under ordinary circumstances have albuminuria." Senator holds that we may regard the appearance of albumen in the urine of healthy men as the "Physiological albuminuria, just as there exists a physiological glycosuria, oxaluria and indigouria."

Sir Wm. Roberts says it has been both affirmed and denied, on high authority, that traces of serum-albumen exist in normal urine. "I have satisfied myself" he says, "that concentrated urines from persons in undoubted health are comparatively rarely free from traces of albumen, detectable by direct testing. In ordinary processes of testing urine, these traces are naturally overlooked, but they certainly exist very frequently, and their existence shows how nearly on the verge of a sensible albuminuria healthy people are."

The Proteids of the Urine.—It is somewhat remarkable that the recorded observations in our country show a very low percentage of albumi-

nuria in persons apparently healthy when compared with those of our British and Continental cousins. I asked Dr. Victor C. Vaughan, Prof. of Chemistry in the University of Michigan, why it was that physicians in Great Britain and Europe, men of undoubted ability and world wide fame, were finding albumen in the urine of 20, 30, 50, 70 and 100 per cent. of healthy persons examined by them, when the highest per cent. reported in our country was but from 10 to 20 per cent.? In reply to my inquiry he wrote: "I will agree to the statement that *proteids* are frequently found in the urine of the healthy, or those who so far as they themselves or any one else may know, are healthy", and he called my attention to an article on "The Proteids of the Urine, with a comparison of the Tests for Albumen" by F. G. Novy, M.S., Instructor in Physiological Chemistry, University of Mich. *Medical News*, Vol 53, (1888), and said "you will see from this article, to which I have referred you, that with some of the proposed tests you can find albumen in the urine of almost any one." In this article Mr. Novy calls attention to the fact that serum-albumen is the only proteid which the average physician expects to find in the urine. Whereas, globulin, hemi-albumose (Bence Jones albumen) and peptone, are also frequently present. In the ordinary methods for testing for albumen, all of these proteids but peptone may be readily mistaken one for another, and, indeed, he says, "this has been rather the rule than the exception." Serum-albumen is generally considered to be indicative of structural disease of the kidneys, but the other proteids have no such grave significance, nevertheless serum-albumen is usually accompanied by larger or smaller quantities of globulin, and in some instances, even peptones may be present, "our ordinary tests for serum-albumen are also responded to by globulin and, hence, when applied to an albuminous urine, they indicate, as a rule, a greater amount of serum albumen, than that actually present."

Globulin usually accompanies serum-albumen and may be present in almost all varieties of albuminuria, though in variable quantity. According to Hammaisten, it constitutes from 8.13 to 60.24 per cent. of the total proteids in albuminous urine. The more recent investigations of Maguire indicate that globulin can exist in the urine by itself, even without serum-albumen being present, and he reports three cases of cyclic or functional albuminuria, and one of puerperal albuminuria, where he found the proteid of the urine to consist solely of globulin. Novy also mentions one case of functional albuminuria which came under his observation where globulin alone was found in the urine. These reports accord with the statement I made in my paper on "Functional Albuminuria" read before the American Medical Association May 22d, 1890, viz.:

"The present line of investigation is pointing strongly toward globulin as the form of albumen which is likely to be found in the various forms of functional albuminuria when chemistry will furnish us with simpler methods and more reliable reagents for its discovery."

ELECTRICITY AS A THERAPEUTIC AGENT. WHAT IS NEEDED TO DETERMINE ITS MERITS?

Read in the Section of Practice of Medicine and Physiology, at the Forty-seventh Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1901.

BY W. J. HERDMAN, M.D.,
OF ANN ARBOR, MICH.

There are few subjects toward which the mind of the medical practitioner is more in need of proper adjustment than that of the use of electricity as a therapeutic agent. It is now more than a century since a professor of anatomy in the University of Bologna announced to the profession—that is daily puzzling its brains over the various ills that flesh is heir to—that he had discovered, in the association of dissimilar metals with the legs of decapitated frogs, a force was generated capable of acting as a substitute for nerve impulse in causing muscular contraction.

Electro-physiological inquiry received a new impulse from this discovery of the effects of a continuous or galvanic current on living tissue, and from that time on there has been an unceasing activity displayed by many of the best minds in the profession, in adding to our knowledge of the power of electricity in modifying and controlling the vital processes going on in animal structure, until medical and scientific literature is burdened with the rich fruit of their researches.

Many of the discoveries in electro-physiology suggest valuable additions to our therapeutics, and while there have not been wanting examples of able men in the profession, like Remak, Duchenne, von Zeimssen, Erb and De Watteville, who have used their best energies to gain for electro-therapeutics the recognition which its importance deserves, its power as a curative agent is as yet but imperfectly understood by the vast majority of physicians. The reason for this is readily explained. The work of the physiologist, though indispensable as antecedent to rational therapeutics, is often in too crude a state to be readily made available by the busy practitioner. A hiatus exists between the discoveries of pure science and their practical application to the requirements of everyday life. Men are rare who have either the time, the opportunity or the ability to acquire such experience in both fields of research as to adapt the discoveries of the one to the needs of the other. Electric physics, physiology and pathology, each are so comprehensible in their scope

that, with the best facilities, a lifetime is spent in acquiring a knowledge of what is known of each. It is no wonder, then, that, during the past century, in which so much has been revealed concerning the mysterious working, both on the organic and inorganic world, of that strange force we call electricity, so little practical use has been made of it by the physician, and that it has, in common with many other discoveries, in the twilight of their early dawn, been seized upon by the impostor and charlatan as suitable instruments with which to prey upon the minds and pockets of a credulous and expectant world; and when, in addition to this, we recall the fact that there has existed among those who have attempted to direct our minds toward the therapeutical application of electricity, the greatest diversity of opinion as to the form of currents that should be used, and the methods for applying them, and that no attempt has been made at uniformity even in the instruments employed for this purpose, it is not surprising that electricity as a therapeutic agent has been looked upon as of rather doubtful efficiency by the majority of physicians. But, fortunately, while these causes have operated to bring electricity into disrepute in the minds of conscientious practitioners of medicine, the rapid strides it has made in other fields of usefulness have raised it in importance and esteem, so that its power and efficiency must be everywhere recognized by the man, be he medical or lay, whose daily life is so dependent on its labor. It now requires but little argument to convince any man that electricity may probably effect some change in the disordered state of his bodily economy, who, every hour of the day, is depending upon this selfsame force to aid him in the minutest details of his daily life. Nor does the *physician* now entertain that same contempt which once he might have done for an agency which, in these latter days, lights up his house, washes his linen, stitches his clothes, prints his newspapers, cooks his meals, transports him to his office, and brings him into communication with his patients, far or near, while sitting at his desk. So insidiously have the commercial uses of electricity crept in upon us, and so indispensable have they become already to our comfort, that were we, as a people, thrown back on the resources of even a decade ago, we would feel somewhat the same uneasiness and discomfort that Rip Van Winkle expressed on waking from his long sleep. While the profession at large has given but little or no attention to the therapeutic uses of electricity, there has been a skirmish line in advance of the main body, that has not been idle, and along this line there have not been wanting bold and self-reliant spirits who, with the directness of aim and the clearness of observation of the sharpshooter, and with a genius for experiment and fertility for invention seldom excelled, have done efficient work in making in-

roads on diseases that have not yielded to other modes of treatment; or, if so, with far less readiness.

We do not question that claims have been made for electro therapeutics that are fallacious and unsound, but, granting this, the work of the last fifteen or twenty years leaves much that can withstand severest criticism, and will compare favorably with the results obtained by any other method for treatment of disease, that receives the unqualified approval of the profession. The work of such men as Erb, De Watteville, Apostoli, Keith, Beard, cannot be turned aside with a sneer; while the universal testimony of the neurologists that this agent is indispensable to the successful treatment of a long range of diseases coming under their management, challenges our acceptance and respect.

The therapeutic effects of electricity, as far as they have been determined by physiological and clinical observations, may be classified as *stimulant*, or *electro-tonic*, *sedative*, *electrolytic* and *cathartic*. To these should be added the *cauterizing* action, since the galvano cautery has a range of therapeutical application peculiar to itself.

STIMULANT ACTION.

The *stimulant* and *electro-tonic* influence of certain forms of electrical application is readily demonstrable, and is applicable to a great variety of conditions of bodily derangement. Where muscular tissue lacks tone, whether it be voluntary or involuntary, striped or unstriped, it can be readily subjected to the stimulating influence of the electric current, and in a variety of ways. For this purpose we can employ the static machine, the cathode of a continuous current, or the induced current completely interrupted or alternating, and, by the selection of one or the other of these forms, according as it seems best adapted to the condition, the functional vigor can be aroused in an organ in which such muscular tissue forms an essential part. And how universal are such tissues throughout the body! Thus the circulation in any part may be quickened, passive congestions overcome, congested organs relieved, and the evil results of malnutrition from excess or lack of blood in a part, or from feeble efforts at elimination, may be corrected by this action of the electric current. Functional disorders due to failure in vaso-motor control are especially benefited by such applications.

The good effects of such currents are daily demonstrated in the clinic by increased growth in paralyzed limbs, relief of pain, improved action of the viscera, and an increased sense of well-being manifested by the patient's manner and action. A torpid liver, a congested spleen, constipated bowels due to lack of secretion or feeble peristalsis, a congested or subinvolved uterus, chronic congestion of the ovaries, exhausted nerve centres with attendant hyperæmia or anæmia, pro-

ducing those perplexing states of neurasthenia or spinal irritation, are all conditions that can be helped by electric stimulus. And what have we to look to in our *materia medica* that will accomplish like good results with less damage to the organism as a whole? What can you apply or introduce that will reach the offending spot with as much precision, or do less damage by its presence while it gives the needed help? It certainly adds energy where energy is wanting, and when its work is done it leaves no *débris* behind to clog the further working of the part.

SEDATIVE ACTION.

As a temporary *sedative*, both the induced current and the anode of a mild continuous current are of service. They calm the neuralgic pains of many functional and organic disorders; they relieve headaches due to congestion or migraine; they allay the pains of muscular rheumatism, of pleurodynia and painful menstruation, and the lightning-like pains, so common in locomotor ataxia, are often more promptly and permanently controlled by this than by any other means. The manner of action through which this effect is brought about by the electric current is open to speculation. It may be in one of a variety of ways: by subduing a congestion which is the cause of the pain; by stimulating absorption or elimination of some deleterious effete substance; possibly by hastening the decomposition of an irritating product which is formed as the result of imperfect or misplaced metabolism; or the purely physical influence of vibrating movement induced in the nerve structure may account for the soothing effect. Whatever it may be, the calmative influence of these methods of electric application is daily exhibited in a great variety of painful affections, and sufferers of all ages and temperaments bear grateful witness to its efficiency in affording them relief.

ELECTROLYTIC ACTION.

The electrolytic action of the continuous current—that is, the power it has to bring about chemical decomposition and change the atomic arrangement in the composition of compound substances, is credited with very important therapeutic effects.

Electrolysis, by freeing the acid constituents of the tissues at the anode, and the alkaline at the cathode, is a convenient means for producing styptic or caustic action, which can be readily applied and accurately limited, and has of itself a wide range of application in the diseased body. But if, as is claimed, it can be proved by actual experiment or from clinical data, that all tissues lying between the rheophores of a continuous current are directly modified in nutrition and vital action by its influence, according to the quantity or intensity of the current, who is there so rash as to attempt, in this the infancy of

the rational use of electricity as a therapeutic agent, to mark out the limitations of its powers? No matter where, upon or within the body, disease has begun its havoc, the continuous electric current may be made to traverse the part and work such change as comes within the province of its powers. What these powers are over living tissues the physiologist and clinician must determine, but may it not be, with some reason, anticipated that normal tissue will be found to be stimulated to more vigorous action and resistance by its aid, while abnormal processes are checked, and substances foreign to the part, as effete matter or germ colonies, will be found unable to withstand the additional energy of this opposing force. If such change can be proved to be wrought by this mysterious agent in the secret laboratory, where cells and blood carry on their incessant interchange in harmony or discord, then no one will deny that in the continuous current we have a therapeutic agent which, for many disorders within the realm of both medicine and surgery, surpasses all other means at hand, and testimony in medical literature is accumulating in such abundance and from such high sources, as the result of accurate methods and critical observation, to the effect that herein we have a resource which will *cure* where hitherto we have only been able to *destroy* the part affected, that it challenges investigation, if not adoption, by every member of the profession.

CATAPHORIC ACTION.

The cataphoric action of the continuous current gives promise of aiding us materially in many ways. The introduction of medicinal agents into the body through the skin is oftentimes desired, and any method that will accomplish this with greater certainty than those now in use will be a valuable acquisition. The discovery of lanolin as an excipient for remedies applied by inunction was a great advance. But if, by employing the anode of the continuous current, we can hasten this process of absorption, and cause medicines to penetrate the cuticle, and thus reach directly the offending tissues, it will, in many instances, be of great service. This power to increase or reserve osmosis which the continuous current is said to possess will, if true, have abundant duties assigned to it in the removal of dropsical effusions from cellular tissues, joints and cavities. The contributions of Munk, von Bruns, Corning, Peterson and others, have furnished us with much interesting information on what they claim is the cataphoric action of electricity in carrying remedies and anæsthetics through the skin, and it has even been suggested by a well known and highly esteemed surgeon, in a recent article, "that the principle of the process that causes absorption or diminution of the bulk of an uterine fibroid treated in this manner (*i. e.*, by the constant electric current), must be looked for in some form of electrical osmosis."

CAUTERY ACTION.

The advantages offered by the galvano-cautery over any other surgical procedure are chiefly found in the removal of growths of vascular or fungous character, or in arresting the progress of ulcers and malignant disease in passages of the body narrow and remote from the surface, like the nasal fossa, the Eustachian tube, the pharynx, larynx and external auditory meatus, the bladder, urethra and uterus. By this method the cautery snare, or knife, or scoop may be nicely adjusted to the necessities of the case, and when all is in readiness the heat is generated in the cauterizing tip with a definiteness of application and rage of intensity perfectly under control. In skilled hands its action is perfect and for such cases all other methods of treatment are but bungling substitutes.

Let us briefly enumerate a few of the results attained by electricity which have directly advanced the science of medicine and surgery. The physiologist, by the discovery of the laws of electro-tonus, has made it possible for us to determine the condition of a paralyzed muscle, thus greatly advancing the accuracy of diagnosis after injury or disease of brain, or cord, or nerve.

For the increase of our knowledge of *cerebral localization*, with the marvelous results in *cerebral surgery* which have followed so rapidly in its train, we are almost wholly indebted to the electrical experiments upon the brains of animals by a host of investigators. As a remedial agent it is claimed that:

It restores the action and increases the growth of paralyzed parts; it arouses vital action; it improves nerve conductivity; it contracts muscle; it hastens osmosis and absorption; it excites secretion; it quickens the circulation; it aids elimination; it allays pain; it makes hypodermic medication possible without puncturing the skin; it destroys superfluous hairs, removes warts, moles, sebaceous cysts and epitheliomas; it checks the ravages of lupus and other ulcers; it heals bed sores; it arrests keloid growths; it dissolves away cicatrices in the skin and along mucus channels forming strictures; thus, stricture of the lachrymal duct; thus, stricture of the Eustachian tube; stricture of the œsophagus; stricture of the os uteri; stricture of the rectum; stricture of the urethra, are all amenable to this treatment. "Not long ago physicians and surgeons of repute flouted the treatment of urethral strictures by electrolysis, now it is so generally and successfully practiced that scarcely any oppose it. . . . There is no comparison between the treatment of strictures of the urethra by the ordinary methods and its treatment by electrolysis. Should the permanency of the good results prove to be, as a rule, not so great as those recorded, still the calibre of the stricture remains

enlarged for a longer space of time than after any other form of treatment."¹

Like testimony from reliable sources as to its superiority over all other methods for the relief of strictures and the disorders consequent upon them in the other localities named, is not wanting.

It coagulates the blood in aneurisms, nævi and varicose veins.

Dr. John Duncan, surgeon to the Edinburgh Royal Infirmary declares "I have no hesitation in saying that the only justifiable method of treatment for cirroid aneurism is electrolysis."

We all know the claims of Apostoli and his followers for the treatment of uterine fibro-myomata by electrolysis, and it needs but be said that larger experience and improved methods have but confirmed and rendered more positive his earlier view, i.e., that it is a method for treating the majority of cases superior to all others, and in this he is ably backed by Keith and numerous lesser lights. Keith's latest conclusions are thus stated in his own words:

"This treatment *almost always* relieves pain. It *almost always* brings about diminution of the tumor, sometimes rapidly. It *almost always* stops hemorrhage, sometimes rapidly. The results are *almost always* permanent and the growth of the tumor, if it be not lessened, is stopped. The general health is *immensely improved*. By *almost always* I mean *nineteen cases out of every twenty*."

The prostate gland, homologous in structure with the uterus and subject to like abnormal growth, has proved a perplexing problem when enlarged. Both physician and surgeon have expended upon it their best endeavors with but small reward; but some encouragement may now be held out to the sufferer and his physician, for recently it has been said, by one whose experience and opportunity for observation give weight to his words, "We have no hesitation in defining this as the only truly remedial treatment known for the hypertrophy of this gland in *restoration of its function*, operative procedure, looking, as is evident, to its greater or less destruction."

Such an array of victories claimed in the name of electricity demands of the profession proof or disproof.

But how are we to go about separating truth from error in these claims, and by what means can we determine with accuracy the capacities and limitations of this powerful force in nature for the treatment of disease? Hitherto we have, for the most part, acted like children in our dealing with the matter, for, armed with the trifling toys so often furnished for medical batteries, as heterogeneous in their variety and construction as the weapons of our revolutionary forefathers in

their first contests with the King's regulars, we attempted a crusade against the hidden mysteries of disease with a force, in its essence powerful, it is true, but hampered by our ignorance and the conditions under which we sought to operate it. No wonder that failure in cure followed such crude applications and that rumors of better results were met with incredulity.

We believe we are about to enter upon a more thoughtful age and are now as a profession prepared to soberly seek out and conform to those conditions which are indispensable for determining the effects of this all prevailing-force on the human body, both in health and disease.

THE FIRST REQUIREMENT.

The first requirement for a rational electro-therapeutist is that he who undertakes to practice it should be well drilled in electric physics and physiology.

In no branch of practical medicine and surgery can a knowledge of the fundamental principles of the natural sciences be safely ignored, but nowhere is such knowledge so indispensable to success as in the practice of electro-therapeutics, and yet how many of our medical colleges demand even an elementary training in physics as a condition for entrance? And how few furnish any instruction worthy the name in the regular curriculum?

How many physicians who are daily making use of electricity in their practice could explain the construction of the apparatus they are employing or the conditions it must comply with in order to generate a current? I have known a physician in high standing, a professor in a medical college, to use a galvanic battery of simple construction for a period of three months in making daily applications to a patient, and during that entire time there was no current passing through the conducting cords, he having failed to join the proper connections. And such mortifying instances, discreditable to the profession, could be related *ad nauseum*.

One who makes use of an electric battery should be as familiar with its construction and action as an oculist with his ophthalmoscope or an engineer with his engine; but how many expensive batteries, do we see lumbering up physician's offices, useless and set aside because of a corroded connection or a broken wire! It is perhaps fortunate so many accidents do happen to medical batteries, for electricity is a dangerous tool in the hands of one who knows so little of the conditions upon which its action depends.

Hand in hand with ample knowledge of electro physics should go a familiarity with the action of electric currents on the normal living tissues. The laws of electro-tonns; the effects peculiar to the anode and the cathode; the variation in resistance of different tissues, all are essential factors in the information requisite to an in-

¹ Electrolysis in the Treatment of Urethral Strictures. New Eng. Med. Monthly, Dec. 1889.

² W. E. Stevenson, M.D., Woods Monographs. "Use of Electricity in Surgery."

³ Brit. Med. Jour., Feb. 12, 1891.

telligent use of electricity in therapeutics. Practical demonstrations and practical experience in electro-physiology as laboratory work under competent instructors, can alone fit the student for practicing intelligently this occult science. As reasonably might the physician, or he who dignifies himself by that title, attempt a cure by dealing out unknown drugs from his medicine case as to use electricity on his patients without such antecedent preparation.

THE SECOND REQUIREMENT.

The second requirement for securing a rational scientific position for electricity among therapeutic agencies is a uniformity in the means employed for its application to the body.

We have at present no less than fifty manufacturers of electric batteries and appliances for medical use, and no two of them have adopted the same pattern or means for generating currents. On the contrary, trade enterprise has stimulated inventive ingenuity to produce diversity rather than uniformity in order that it might be made an additional argument for the sale of that particular variety of instrument. Many physicians in this, as in many other therapeutical measures, take suggestions from non-medical men as to what instruments they require and how their patients should be treated. Those members of the profession, who have from personal experience, discovered the essentials of a medical battery rather than the instrument maker, should be looked to for information as to what are the best and most suitable forms of batteries for therapeutical purposes. Some standard should be adopted for a constant current battery, an induction coil, a volt meter and a milliamperemeter.

It is rare, if any two physicians at the present time, who daily employ electricity in their practices, do it in like manner. They cannot therefore compare results since they are not assured that in the treatment of similar diseases they have subjected their patients to the same conditions. Should I in Michigan wish to test upon my patient the effects of electric treatment claimed by a fellow practitioner in New York or elsewhere to be successful, how can I know that my "McIntosh" is furnishing the same current that he used from his "Kidder," since our milliamperemeters have never been compared, and the voltage and resistances are not reported?

Recently effects have been reported in a prominent journal by an eminent electric therapist as having been brought about by the use of the induction current that seems to me incredible, but am I justified in denying his statements until I know what form of instrument he made use of, and have myself used the same in like manner and so determined the inaccuracy of his conclusions?

Nothing differs more than the intensity of the

currents generated by induction coils; therefore, without a standard instrument, which is the same wherever used, no progress toward uniform results can be made.

Until within a few months there has seemed to be no way open for securing this much desired harmony and uniformity in electro-therapeutical appliances, but the organization of an *American Electro-Therapeutical Society* in January last gives promise of better things, and may we not hope that through the labors of this organization we will soon receive definite instructions as to the best instruments to make use of and the best methods for applying them?

In this connection let me suggest that the tendency should be toward the simplest and least expensive instruments consistent with efficiency. Many of the obstacles to the progress of electro-therapeutics have arisen from the high price, complexity and frailty of the instruments furnishing the current.

One drawback, and that perhaps the most fruitful in retarding good work, lies in the use of fluid batteries for generating both constant currents and the primary circuit for induction currents. Many of the annoyances arising from this source, such as the deterioration of the fluids, the consumption of the elements when the battery is not in use, the corrosion of connections in the circuit, can now be overcome by using a dry cell. I have for months made use of a dry cell for running induction coils and found it very satisfactory. You who have occasion to use portable batteries can readily appreciate the advantages to be derived from substituting a dry for a wet cell in all portable machines. Even for stationary work the dry cell is superior on account of its cleanliness, but in matter of durability it requires some improvement.

Nothing, in my opinion, will eventually be found so convenient for office work as the use of commercial currents.

The Edison incandescent current with its constant voltage of near 110, affords an admirable source of electric power for electrolysis, cataphoresis, inductive stimulation, and cautery purposes. By a very simple appliance for changing the voltage I have used this current in my office for more than two years, and the same method applies quite as well to the currents of equal or less voltage from other sources, whether they be alternating, as the Thomson-Huston dynamo, the storage battery, or any form of primary battery plant that has sufficient electro-motive force.

To sum up, therefore, the ideal conditions for establishing electro-therapeutics on a scientific basis, they are:

1. A source of electric power, as a dynamo or storage battery with a constant unvarying voltage, from which the current is conveyed to hospitals, physicians' offices or patient's houses.

2. A *current regulator*, rheostat or modifier by which the strength of the current may be adapted to the required needs of individual cases, and this should be of convenient size, durable in construction and simple in arrangement. The simplicity, economy and efficiency of such appliance would insure its being readily adopted by the profession.

3. A *series of electrodes* which should be constructed according to a fixed standard as to size and shape, and they should be made of material which is cheap, readily conducting, and non-polarizable.

4. All should make use of a *standard milliamperemeter* for determining "strength of current" and a *colombmeter* for "quantity" or dose.

Complying with such conditions as these, progress in determining the limitations of electricity as a therapeutic agent would advance with rapid strides. The incandescent electric light plants with low electro-motive force are very common throughout the country. The physician and dentist finds the current extremely useful in his office. It illumines his apartments, it runs his motors, it lights the tiny lamps with which he explores the cavities of the body. It heats the water for his sprays and douches. It will not be long before it will be made use of by the many as it has been for some time by the few, for all the applications of electricity to the human body, since it does away with a host of difficulties that have up to the present been of such magnitude as to make electric applications either a burden or a farce.

RELATION OF GYNÆCOLOGY TO NEUROLOGY.

Read in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY WM. B. DEWEES, A.M., M.D.,
OF SALINA, KANSAS.

The intimate relationship which exists between diseases of the organs in the female pelvis and the general nervous system has not yet been elucidated. Though as early as 1838 Brown-Séquard pointed out the dependence of insanity, epilepsy, hysteria and other affections, upon organic disease of the female generative organs, Baker Brown put these teachings into practice and furnished clinical proofs of their correctness. He, however, fell a martyr to the professional bigotry which his doctrine excited. Now, however, that the rancor of that day has died away, his book on "The Curability of Certain Forms of Insanity, Epilepsy, Catalepsy and Hysteria in Women," can be read with interest and modified by the later revelations of science, his teachings can be followed with safety.¹

The influence of the unhealthy uterus and ovaries upon the development of the diseases of other organs of the body by virtue of the neuric forces through the intermeddling of the complex generative nerve-circle, the sympathetic and the cerebro-spinal systems of nerves, is a matter which I am led to believe has received very little attention at the hands of practitioners as evidenced by the fact, that I mailed a carefully prepared letter of inquiry to two hundred and fifty of the most noted practitioners of the United States, and the only responses came from Dr. Charles A. L. Reed, of Cincinnati, O.; Drs. Barton Cook Hirst, William Goodell, James Tyson, John V. Shoemaker and R. J. Dungleon, of Philadelphia, Pa.; Drs. Trail Green and Charles McIntire, of Easton, Pa.; Dr. C. Henri Leonard, of Detroit, Mich.; Dr. Henry O. Marcy, of Boston, Mass.; Drs. J. Taber Johnson and Irving C. Rosse, of Washington, D. C.; Dr. R. H. Thomas, of Baltimore, Md.; Dr. P. Bryce, of Tuscaloosa, Ala., and Dr. Alexander B. Shaw, of St. Louis, Mo. I had hoped to be able to present valuable data from this source, but the responses being too limited in number, and too meagre with facts, to be of any material value to science, they have therefore been omitted.

For more than a decade my attention has been directed to the interdependence between diseases of the female pelvic organs and diseases of other organs. Which is the cause and which the result is not always possible to determine, the relationship evidently varying in different cases, for while in a large percentage of cases of neurosis in the female, interdependence of diseased conditions through the neuric forces could be distinctly traced and finally lucidly established, by the subsequent course and termination of those cases; in other cases the causes could be seen to depend upon a condition of malnutrition alone.

My authority for coming to this conclusion may fairly be questioned, and therefore I give my reasons. If I am consulted by a female patient complaining of voice, heart, brain or other troubles in whom examination reveals physical signs of diseases of these organs, and if in the same patient I find uterine or ovarian disease, and if the voice, lung, heart, brain and other troubles disappear upon treatment of the uterine or ovarian disease without any other medical aid, it is but logical to conclude that the voice, heart, brain and other troubles were dependent upon that of the womb or the ovaries. This being conclusively shown, by a few illustrated cases selected from a large number and appended hereto, it follows that what may have been a coincidence becomes a sequence, and the conclusion at which I have arrived is inevitable.

Far be it from me to assert from my experience that all cases of neurosis in the female are dependent upon lesions of the generative organs;

¹ Dr. Charles A. L. Reed, of Cincinnati, O. Buffalo Medical and Surgical Journal, May 1882.

but that a very large percentage of the neurosis are dependent upon local disease within the pelvis is fully warranted. It is not my intention to theorize upon the subject, to waste useful time in useless conjectures, my object being only to draw attention to the clinical fact and to endeavor to awaken the medical mind to its great practical importance.

The hindrances to the true understanding of the relation of gynecology to neurology are to be found in:

1. The unsettled state of physiological and pathological history.

2. The absence of a thorough knowledge of the anatomy of the reproductive nervous system, and of data regarding the interdependence of menstruation and ovulation; and last, but by no means least,

3. The existing ignorance concerning the neurosis attendant on lesions of the female reproductive organs.

Confronted with these facts we must acknowledge that we grope for the truth like the blind, and are at a loss for philosophical explanations based on historical and experimental research.

Every experienced gynecologist will upon reflection admit, that there is nothing very extraordinary in the implication of distant organs in connection with and dependent upon utero-ovarian disease through the neuric forces, since in the practice of all such, instances are not wanting wherein tissue-changes have been produced at a distance by ovarian or uterine irritation. Medical literature is full of examples of acne rosacea, pharyngitis, bronchitis, epilepsy, catalepsy, hysteria, melancholia, mania, insanity, diseases of the joints and muscles of the extremities, lesions of the heart and lungs, paralysis, etc., superinduced by reflex irritability of the intrapelvic organs. It is quite true that the number of women dying from these complications is now much less than formerly. We have learned better to differentiate and treat disease, but it is doubtful if we fully appreciate the consequential relations which one abnormal condition bears to another. While in many of these interdependent complications relative to the subject, the disease of distant organs bears to intrapelvic disorders the relation apparently of effect to cause, and you can observe for yourself the fact, yet the manner in which the changes are brought about may remain an open question.

Neurosis may be defined as an exaggerated intensity of both the sensor and the motor forces, and may be induced by *a*, developmental, or *c*, pathological causes.

- a*. Psychological causes may act by an impressionable idea allowed to become fixed by an active fancy or imagination, producing a diseased condition of the imagination, 'whencesoever, idealization produces neuric impulses.

- b*. Developmental causes may act by the rapid and swelling growth of the intra-pelvic organs as manifested by gestation.

- c*. Pathological causes may act by a fluxionary movement, as in suppressed menstruation; the presence of the neoplasm of the ovaries or uterus; misplacement, engorgement or inflammation of these organs. Pathological causes may also be produced by muscular laxity of the abdominal or spinal muscles, or both—unquestionably the most prevalent forerunner of all causes—destroying the primitive erectness of the body, the normal obliquity of the pelvis, the maintained ascendent position of the internal viscera from below upwards, resulting in a mechanical displacement of the visceral status, involving a train of both physical and functional derangements of the pelvic organs.

All of these causes may and do pervert the normal forces of the complex generative nerve-circle to disturb the whole economy, and the persistence and permanence of these causes may develop the emotional influences to an uncontrollable degree, as evidenced by that undefinable neurasthenia known or designated by the term hysteria, or finally affect the mind and even destroy reason, as evidenced by melancholia or insanity. Thus we have the sympathetic neurosis, hysteria, as the analogue of that cerebral neurosis, insanity, both alike dependent upon pelvic neurosis, which fact goes to prove conclusively the interdependence between gynecology and neurology.

In the language of Dr. Chas. A. L. Reed, of Cincinnati, O., who, speaking of the female organs of generation, says: "It may not be amiss, however, to recall the fact that all of these organs have intimate connection with both the sympathetic and spinal systems of nerves, and that these systems of nerves in turn communicate with each other. Through these instrumentalities morbid impulses originating in diseased conditions of the intra-pelvic viscera may be telegraphed, as it were, either to those centres which preside over nutrition, or to those other centres which govern sensibility and motion. In the former instance the sympathetic system furnishes the route of transit, and the result may be observed in the modified calibres of all the blood-vessels generally; in the perverted activity of all the glandular organs; in the unrhythmical movements of all the other viscera and gland ducts, or in a more or less marked interference with ultimate tissue nutrition. In the latter instance the cerebro-spinal system of nerves is involved and the results are pain, and may be motor disturbances of either the voluntary or reflex character. In either case the brain is reached, and we cannot fancy that impressionable organ receiving an impulse in excess of normal without sustaining more or less functional disturbance, whether that

disturbance be manifested by psychic phenomena or not. The perpetuation of this disturbing influence through the persistence of the initial lesion in the distant viscera is sufficient to convert the functional disturbance of the brain into an organic change involving that organ."

Here let me digress to state in this connection that I regard thought and all mental actions to be the results of brain elimination, and in proportion to the quantity and quality of the grey matter of the brain so will be the intellectual capacity of the individual. Any change, either progressive or retrogressive, in the metamorphosis of the ultimate cell structure of the brain will upset that symmetrical balance of action known as sanity, and the various grades of insanity are developed. I regard the brain as the being—the man—all else, limbs and organs, as servants moved and compelled to do duty by the nervous mass. Oken asserts "that the animal is naught but nerve." Can you gainsay him? From the nervous mass called brain issue two, and only two forces, one sensor and the other motor.

Returning to our subject, it may again be argued that, first, there is a derangement and impairment of the complex nervous system and neuric function from the utero-ovarian or pelvic diseases, followed by impaired digestion and mal-assimilation as a natural consequence. Then comes the persistence of disordered hepatic, renal, etc., circulation, the invasion of the contents of the digestive tract by the *torula cerevisiæ* and consequent fermentation with its attendant disorders constantly increasing. Finally, by excessive irritability of the nerve-circle presiding over the orgasm function there is developed a morbid sympathetic or cerebro spinal action, which may be curable because there is simply supernatural reflex irritability,—a sympathetic or cerebral neurosis dependent upon pelvic neurosis.

APPENDIX OF CASES.

Case 1.—In May, 1886, I was summoned to take under care the wife of a farmer, aged 54 years, and the mother of two sons, who had passed the menopause at 46, and always enjoyed good health up to about eighteen months prior to my seeing her, when she received some injuries by being thrown from a carriage by a run-away horse. Her suffering then being confined chiefly to her knees, which had become very swollen and painful, presenting all the local characteristics of acute articular rheumatism, for which disease, (the husband stated), nine different physicians had treated her during the eighteen months of her confinement to bed, without any apparent benefit, aside from the temporary relief of pain. A timely and careful examination revealed a complete protrusion of the uterus, greatly congested, from the vulva of the patient, who was lying on her back, and both her knees swollen to three times their normal size, red in appearance and very painful to the touch, so much so that the bed clothes had to be supported above them. She was very much emaciated by her long suffering and confinement. I noted my diagnosis *prolapsed uteri*, complicated with neuristhenic insufflation of both knees—hys-

terical knees. I repositioned the uterus and retained it by proper mechanical support and painted the knee joints twice daily with oil of peppermint, which together with attention to diet and cleanliness constituted the entire treatment. The patient made a rapid recovery, she being able within six weeks to leave her bed and come to my office, a distance of ten miles, with all the appearances of being a well woman, and has remained well ever since.

Case 2.—Miss —, aged 24 years, was supported into my office by her father and mother seven years ago. The history given to me of her case was that she had been then under treatment for consumption and hysterical epilepsy for six years, without benefit, but on the contrary was gradually failing. The girl's appearance was pitiable in the extreme. Large drops of cold sweat bathing her emaciated face, which bore a livid hue, with an expression of extreme anxiety; her extremities swollen and abdomen distended until it had become painful. Of late she had been having frequent hæmoptyses with dyspnoea, painful chest and great increasing weakness. Back-ache, irregular and painful menstruation, leucorrhœa, anorexia, hacking cough, and a weak lanky voice. She was now seized with a hysterical-epileptic convulsion, and I had to defer further examination until it had passed off. After which auscultation revealed areas of dulness with sibilant rônchus over both lungs, prolonged expiration and feeble heart's action. Examination per vaginam showed a prolapsed retroflexed and inflamed uterus. The treatment consisted of special attention to the uterine condition, rest in bed for several months, hot water douches and nourishing diet, with finally placing a Smith Hodge pessary, and her recovery was complete in six months she being robust and well ever since.

RAPID DILATATION AND CURETTING.

Read in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, Washington, D. C., May 3, 1891.

BY J. G. CARPENTER, M.D.,
OF STANFORD, KY.

This is a subject of no little importance to the profession; the voice of warning has already been raised against, it might be said, the wholesale use of rapid dilatation and curetting or the practice of these in the hands of those who are unskilled in their use and are poor diagnosticians of intra pelvic disease; in fact, these therapeutic measures have been severely condemned by distinguished abdominal and pelvic surgeons, chief of whom is Dr. Joseph Price of Philadelphia. He has written a most excellent paper on "Certain Causes of Major Pelvic Troubles Traceable to Minor Gynaecology."

That they have been severely condemned is no argument against their proper use; that they have been shown to be instruments of great harm in the hands of the rosenist, the inexperienced, and unskilful, and met with so great censure by intra pelvic surgeons so eminent, will deter many from their former practice and save the female the ordeal of abdominal sections. It may be truthfully stated that when the intra pelvic affections threatening life, arising from rapid dilation and curetting, as well as the improper use of the uterine sound and trachelorhopy, and abuse of pes-

saries and caustic applications to the endometrium, are realized and appreciated by the so called pseudo, or minor gynecologist, there will be fewer cases with their ovaries and tubes in bottles, instead of their normal habitat.

Unfortunately for humanity so many graduates as well as senior members of the profession appropriate to themselves the stupendous title—Gynecologist, and seem to think the essentials to a successful practice and fortune are the speculum, uterine sound, curette, Goodells' dilator and Thomas' retroversion pessary, and handle the sound with as much recklessness as the dude twirls his cane, and imagine all intra pelvic diseases are uterine. The ultima thule is fewer and better practitioners, less number of medical students, fewer and better medical schools with enlarged hospital experience, and instead of a three years course of study being compulsory, make it five years or longer, with abundant clinical or hospital experience and gynecology learned and taught before it is put into practice. Unfortunately only the minority of every graduating class have had proper clinical experience to begin practice; the majority seldom reach mediocrity; they start wrong, go wrong and end wrong.

There are cases demanding rapid dilatation, or curetting, or both, and the physician would be direct of duty not to use them. Their proper use must be commended, their improper use condemned.

The scriptural adage, "be temperate in all things" is highly appropriate and essential in the practice of minor gynecology. That the minor gynecologist too often ignores or is incompetent to detect existing intra-pelvic diseases when practicing these methods, or by the practice produces intra-pelvic diseases, there can be no doubt, just in the proportion to the abuse of rapid dilatation and curetting and other minor measures does he become a *feeder to the major gynecologist or abdominal and pelvic surgeon*, only a few weeks observation and study and analysis of cases in the practice of men in the profession like Drs. Joseph and M. Price, Charles B. Penrose, E. E. Montgomery and Hoffman of Philadelphia, and T. A. Emmet of New York, would convince any "doubting Thomas" that "certain causes of major pelvic trouble are traceable to minor gynecology."

One class of patients, you will find the major pelvic trouble traceable to a dirty confinement, or too early leaving bed and resuming household duties or hardships, or other minor imprudences; to imprudences during the menstrual molimen and frequent abortions; others have had a gonorrheal infection or sexual abuse; others date origin of the ailment to an improperly adjusted pessary; to the use of the sound or probe; caustic application to the endometrium or os; others to operation on cervix (trachelorrhaphy); others to

rapid dilatation or curetting, etcetera etcetera. That the general practitioner too often generalizes in place of specializing, and the specialist too often specializes instead of generalizing, there can be no doubt, and that the minor gynecological tinker, tinkers with his patients until major pelvic troubles arise, and his patients pass into the hands of the pelvic surgeon is *self-evident*. These major pelvic troubles, many of them like Banguo's ghost, will continue to arise, because they will not down or cease until the pseudo gynecologist ceases to tinker. These questions may be asked, are forcible dilatation and curetting ever essential, and when are they indicated? Answer, yes. When and by whom should they be used? They should be used by the aseptic physician, or surgeon, who has been taught by practical experience and differentiation the pros and cons for these measures, and as a dernier resort; but some times, as in case of hemorrhage and putrid placental infections, their use as means of primary remedial importance must be considered, in order to save life and prevent sepsis; and with the aseptic instruments, through the aseptic vagina, os, and cervix and when dilatation or curetting is accomplished, make the endometrium aseptic with hot water, the bichloride or boric solutions, iodine and glycerine mixture (Churchill's tincture of iodine), the liquid vaseline and oil of eucalyptol, or menthol solutions, the insufflation of bisulph, subnitrate, or iodoform; the vagina kept aseptic "pro-re-nata" by hot antiseptic douches and aseptic vulva pad to prevent decomposition of the uterine discharge and infection. Before forcible dilatation or curetting are resorted to, the patient should be given a hot water and soap bath, purged freely, and placed in bed at rest twenty-four or forty-eight hours, and the vagina douched with hot antiseptics every six or twelve hours. After the operation, the patient should be kept in bed one or more days, until all manifestations of a local or constitutional reaction have subsided and the patient free from danger; the operation should never, never, be done in the private or consulting office, and never by the pseudo-gynecologist; nor more than intervals of ten or fourteen days, at least five days before and after the menses, and when the disease is limited to the uterus *per se*, an entire absence of disease in the pelvis.

These measures, though sometimes indicated and though no intra pelvic inflammation is present, may and have done incalculable harm by setting up pelvic disease even though slight; no dilatation or curetting should be practiced unless absolutely required by patient to save life. Rapid dilatation or curetting are distinct traumatism, and all the dangers incident to septic absorption may attend them that follow any other violent procedure. Dr. Joseph Price states in reference to rapid dilatation: "This conclusion reached

inferentially has been abundantly confirmed on the operating table by much of my later pelvic work. In a number of cases with a history of preceding dilatation, the after-operation has exhibited an inflammatory condition of affairs as complicated as any other; in my experience some of the dilatations were done with pre-existing disease which was made worse by the interference, while others were done simply to relieve the dysmenorrhœa and resulted in the establishment of a complicated surgical disease in which operation was necessary to save life. All in all, I believe that judged simply by its remoter effects, the operation of rapid dilatation is a dangerous one and results oftener in subsequent harm than in lasting good. The surgical injury to the cervix which it is the intention to remedy by Emmet's operation. Dilatation with curetting of the uterus have placed to their credit a long series of major operations."

The writer saw a unilateral laceration, left side, caused by the dilator, extend almost to the fornix vaginae. No doubt many experienced physicians have dilated with good results, such men as Emmet, Gilwily, Goodell, DaCosta, Baldy, Ashton, Noble and others who are not so eminent, but they have been taught gynecology in all its relations and know the when, and how and the pros and cons. Dr. DaCosta states: "Dr. Goodell has reported to this society (Philadelphia County Medical Association) many cases in which forcible dilatation has been used with grand results. I have used forcible dilatation in many cases and have never had bad results. The reason is that when I began the study of gynecology I was taught how to use it properly, and not to use it in every case. The dilator is a surgical instrument and one which must be handled carefully. You must know how to do your work before you attempt to use it. My teaching is, when there is violent inflammation in the pelvis not to do any operation on the uterus and to hesitate to use the sound." (He should have said never use the sound.)

Dr. William E. Ashton: "The question of the use of the dilator depends on one or two facts. First, as to the condition of the uterine appendages and their surroundings; secondly, properly selected cases. I believe that when we have the pelvis perfectly free from local disease in cases where the uterus is strongly antilexed and perfectly movable, and upon the introduction of the sound we find there is a point of intense pain at the internal os, we shall find in a certain proportion of cases that good results are obtained by the dilator. The vast majority of cases of dysmenorrhœa are cases which have a distinct tubal or ovarian origin. It would be absurd to rapidly dilate in such cases. It should go on record that the uterine sound should only be used by men who have a thorough knowledge of the pathol-

ogy of the pelvis and who can appreciate the great danger incident to inflammatory troubles in the uterus."

Dr. C. P. Noble: "I should be loth to give it up (rapid dilatation): I have never seen any harm follow rapid dilatation in any case. This is due to the fact that dilatation has been used in cases in which the disease is limited to the uterus. I agree that it is useless and dangerous to dilate the uterus when tubal disease is present. In uterine disease it is capable of a great deal of good."

Dr. J. M. Baldy: "I should be loth to give up forcible dilatation in certain cases. It should not be done in every case of dysmenorrhœa, for the vast majority of cases are due to ovarian or tubal disease. I believe that in the vast majority of cases where trouble follows the use of the dilator, there has been pre-existing pelvic trouble. I do not think that a carefully done dilatation in a healthy pelvis will do harm. It is admitted that it will tear uterine tissue, but that this can cause trouble unless the wound becomes septic I am not prepared to admit."

Dr. Price, in referring to the article of a minor gynecologist, states in debate (Philadelphia County Medical Society). "He is the great mischief doer. He tinkers, dilates, cures, passes the sound and in four to six weeks he (Dr. Price) gets a telegram to come and open the abdomen to save the patient's life; that the woman is leaking; that she has a pulse of 130 to 140, with temperature of 104°. This recurs weekly; also stated of specimens in that jar removed during the month of August, 50 per cent. followed dilatation, closure of cervix, the use of the sound and curette. These specimens have come from four clinics in this city (Philadelphia), and from ten prominent gynecologists. They all had sections to save life and all were greatly complicated operations. These fibroids in the jar had pus in them, the result of electricity. This private office work has a great deal to do with it. Many of these men are simply cervix feelers, and never find anything above it. There may be a mass larger than the uterus on one or both sides which they fail to find. They are not anxious to find them and would not be troubled by them or capable of dealing with them if they struck them accidentally."

This state of affairs, existing in Philadelphia. The havoc wrought by the minor gynecologist could be doubtless estimated *ad infinitum* throughout the world. Dr. Joseph Hoffman states, I have put on record, in the Obstetric Society, a case where the uterus was perforated by the curette. I have seen to day two patients that have been treated by the curette and from whom I have removed the appendages. In one case that I know of the uterus was torn by the dilator, then a sponge tent was put in and allowed to remain, I

do not know how long. You know the rest. In the case in which the uterus was perforated by the curette, the operation was done by a gynaecologist of considerable experience. Nevertheless the uterus was ruptured and peritonitis was brought on and abdominal section was necessary to save life. I have to day two other women who were treated by minor gynaecologists; they were both left miserable. In one the vagina is much contracted and the pelvic viscera are certainly affected. In one of these cases especially electricity was used ad nauseam. The history is this: first dilatation and scraping; then closure of the perineum; and then the opening of the abdomen. Dr. Emmet for a decade or more gave the danger signals of minor gynaecology ignorantly and thoughtlessly practiced, but the warning has only been heeded and appreciated by the few. The many, it might be truthfully said, have gone on their way in mid night darkness causing pain and anguish, destroying important organs, wrecking constitutions and loss of life. Emmet's (*Principles and Practice of Gynaecology*) is replete with aphorisms of wisdom lightening the pathway all along the line and is to the major gynaecologist a "sermon on the mount," but the pseudo-gynaecologist or gynaecological tinkers are deaf and myopic and would not turn from the error of their way "though they had Moses and the Prophets to warn them." Dr. DaCosta states, "then in regard to the curette, these usually have a sharp cutting edge. Such an instrument is hardly safe for an able practitioner to use and is not safe in the hands of the unskilled person; when inflammation extends from the uterine cavity to the tubes, after the use of the curette, it is not so much the instrument as the man who uses it." Dr. Hoffman states "the curette in some cases is a necessary evil which we cannot do without. I have found it useful in getting rid of putrid debris from miscarrying uterus in the early weeks of pregnancy, when the use of the finger is thoroughly clumsy and painful; if not impossible, without previous dilatation with tent, I can say I have had no bad results I know of."

Dr. Baldy: "The curette, I think is a valuable instrument, but it is abused and used indiscriminately. After abortion I found it most valuable. In some cases of chronic endometrial disease it is valuable. I believe it will remove almost all necessity for intra uterine treatment. I think the dull curette useless. The only rational treatment is the sharp curette. The sharp curette can be used with as little danger as any other instrument if used properly in skilled hands."

Dr. C. P. Noble: "Why we should give up the curette, I cannot understand. There are many cases of hæmorrhage of the uterus due to uterine disease purely, where there is no ovarian or tubal disease. In such cases, the curette will permanently control the hæmorrhage." (The

consensus of opinion is that the dilator and curette are valuable instruments in skilled hands, but otherwise are agents of potent evil.)

When so skilful and erudite a surgeon as Dr. Emmet has had harmful results follow forcible dilatation and curetting, with all his care, diagnostic and operative skill, painstaking and prophylactic measures, one is forced to believe inferentially that the gentlemen who have been quoted would certainly have had experience similar to Dr. Emmet had they followed up their cases, corralled them, and hunted for after claps or evil results. I have found it often (uterine dilatation) very serviceable for arresting hæmorrhage, particularly when due to soft growths, or to some diseased condition of the canal. It is of great value after a tent has been used to increase the dilatation at the time of operating for the removal of an intra uterine tumor. Ten or fifteen minutes will often be sufficient to effect the necessary dilatation for purposes of exploration, but as already stated, rapid dilatation should never be employed unless the case is urgent. If pregnancy exists and a tent has already been used, or if there should be a hæmorrhage, there will be less risk from rapid dilatation. Under other circumstances, it is always attended with the danger of existing inflammation. (Page 36, *Emmet's Principles and Practice of Gynaecology*.) In hospital practice, when I could control the movements of the patients, I have long employed sponge-tents to bring about a reduction in the size of the often enlarged uterus. This mode of practice is original with me, and from long experience I have found it most satisfactory whenever employed under proper circumstances. The object is to bring about by pressure an alterative effect in the mucous membrane and indurated tissue, to excite contractions of the whole organ and to lessen the circulation in the uterus by means of the profuse watery discharge which is invoked. (Page 140.)

It is equally beneficial, if not more so, when there exists no enlargement, since the disease is then confined chiefly to the cervix, or at least to that portion of the canal below the internal os. By dilating the canal thoroughly in these cases, it will open at the rugæ, so that the agent applied can be brought directly in contact with the mouth of each crypt, and every portion of the mucous membrane. This cannot be done under ordinary circumstances, and the fact will explain the negative result, frequently observed after operations made through the undilated os, for the nearer the uterus approaches to a natural state the deeper will these folds be found. In reference to local treatment Emmet states: "We should always have the fear of cellulitis before us." No portion of the body has suffered more from the over-zealous interference of ignorant practitioners, and from the carelessness of those who,

though not ignorant, fail to make such a thorough investigation of their cases as is essential to their successful management. Under the guise of surgery, the uterus has been subjected to a degree of malpractice, which would not be tolerated in any other portion of the body. Its cavity has been and is to day made the receptacle for agents so destructive, that it seems difficult to understand how their evil effects have escaped observation. But I trust we have already passed the heroic age, and that in the treatment of uterine diseases, we may be hereafter governed by the same rational methods as should apply in every branch of medicine, that is, we may simply, as we term it in this country, exercise our "common sense."

Indications for Dilatation.—Dysmenorrhœa due to cervical stenosis; its cause should be reached by exclusion. There is sometimes primary stenosis; all conditions being normal; the mucous membrane engorged at the menstrual nixus, constricts the internal os, and when there is endocervical and corporeal mentritis in the virgin or nullipara, the stenosis may become much aggravated, especially if, in addition to the hypertrophy and hyperdistention of the mucous crypts with closed orifices and pent-up sections, there is hyperplasia of the submucous connective tissue. To one familiar with the occlusion of the nasal chambers from chronic and hypertrophic rhinitis, it can be readily perceived how a similar condition of the uterus mucous membrane could cause and aggravate a stenosis of the internal os, and how the displaced uterus in the form of visions, flexions and obliquities, single or combined, could cause stenosis like the flexed or dislocated portion of the nose, and be amenable to restitution and dilatation to straighten the uterine canal, making it more patulous; the pressure opening the orifices and emptying the distended crypts of their contents, allowing their walls to collapse, besides causing absorption of effused fluid and unorganized lymph, and by straightening the uterus, also straighten the arteries, allowing increased nutrition, by rectifying the veins, relieve passive congestion, removing the engorgement from the over-loaded capillaries, and in a similar way, increase the functions of the lymph channels. Not only may an enlarged uterus be benefited this way, but, also a uterus of natural size afflicted with endometritis. When the walls of a displaced uterus are straightened by dilatation the womb is much more easily retained in normal position, gets more patulous at the internal os. Some operators would recommend dilatation for infantile uteri, to increase their nutrition and size, but we doubt the expediency and believe the weight of authority is against it, since their cause is tubal and ovarian. After dilatation the distended crypts can be scarified or punctured; dilatation is often essential for diag-

nosis of intra-uterine growths and foreign bodies, and as a preparatory step to curetting. Emmet speaks of the beneficial effects of forcible dilatation for malarial congestive hypertrophy of the uterus. We can also often obtain the pressure, size and positions of intra-uterine growths, and use it as a preparatory step to removal of these growths of foreign body. Dilatation is essential to wash out the uterus when there is sepsis, and in conjunction with curetting to remove septic material and arrest hæmorrhage. Rapid dilatation should never be used unless the cause or case demanding it is urgent. (Emmet states if pregnancy exists and a tent has been already used, or if there should be hæmorrhage, there will be less risk from rapid dilatation than under other circumstances; it is always attended with the danger of exciting inflammation.)

Indications for Curetting for Diagnosis.—Presence or absence of growths or tumors in uterus. Removal of portions from cavity of uterus for inspection. (Skene.) In chronic endometritis, the removal of granulation tissue, as in granular conjunctivitis to open the engorged and distended crypts, and relieve them of their contents and free the lumen of the canal; to remove fungous, or foreign growths, and retained septic placenta; to arrest hæmorrhage. In malignant disease of the cervix, after removing all growth possible with the scissors, the Sims curette, or Thomas' wire scraper, followed by the paquin cautery, becomes a valuable adjunct. Emmet states Sim's scraper has too sharp a curetting edge and causes much bleeding. When the follicles of Naboth undergo cystic degeneration and are detected by their rough and uneven surface they should be ruptured with the curette, used with mild force over their surface. In diagnosis of intra uterine growths, the curette is claimed by some to be a valuable diagnostic measure, but it removes both diseased and normal tissue.

Thomas' wire curette, and Emmet's scissors-shaped or forcep curette are recommended as the safest and most expeditious. The dull or wire curette from the friction or pressure effect produced, may change the nutrition of the affected parts by retraction and absorption of exuberant tissue, and soft villous growths. In cases of old cervical lacerations with multiple papilloma and warty excrescences, the sharp curette has proven a most valuable instrument and did beautiful work by removing them; chronic anhydrous acid was then applied to the bases with the best results, and no evil sequelæ, in the uterus of a woman 70 years old, in the fall of 1889; patient is still living and enjoying good health. Emmet's forceps curette can only remove the growths projecting above the uterine surface; it crushes the diseased tissue in its immediate grasp; in addition, too, it can be used as a dilator when neces-

sary. Of the Recamier curette modified by Simpson, Simon and Simms, it is said that the ingenuity of man has never devised one capable of doing more injury. Women suffering with intra-uterine growths are, as a rule, quite anæmic, and very susceptible to septicæmia and peritonitis after curetting. Emmet states that he has known peritonitis, cellulitis, and pelvic abscess and even death, to occur on removing these growths from the uterine canal with the curette, and in every instance the operator was dextrous in the use of the instrument. Inflammatory disease may extend by continuity of tissue into the tubes, ovaries and peritoneum from the uterus, producing peri- or parametritis, or these can be caused by intra-uterine instrumentation, *per se*, or the dilator and curette. If uteri free from intrapelvic complications only were dilated and curetted under proper conditions, and were a thorough and intelligent, digital and conjoined manipulation made in every case, before instrumental treatment is used, pelvic disease would be detected, and non-interference would be the rule, and major pelvic operations to save life would be less frequent.

When the minor gynecologist ceases to tinker there will be far more tubes and ovaries remain in the pelvis. It is to be hoped that the millennium is at hand, that the "goats will be separated from the sheep," and to the pseudo-gynecologist the scriptural injunction proclaimed "depart ye cursed, I never knew you," will be fulfilled, and that woman will keep her normal uterine appendages instead of having them removed and placed in bottles. The more experienced and skilled the diagnostician is, the less often will he resort to dilatation and curetting; conversely, the more ignorant and unskilled the operator, the oftener will he use these measures and greater will be the disaster to health, happiness and life.

WHEN IS ANTISEPSIS A FAILURE?

Read by Title in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May 3-8, 1897.

BY JOHN ERETY SHOEMAKER, M.D.,
OF PHILADELPHIA.

Outside of a comparatively small circle of surgeons there are heard from time to time suggestions, which occasionally appear in print, that the system of "Listerism," so called, is a failure. Strange as it may seem, it is not very uncommon to hear some one say that in a given case "every antiseptic precaution" was adopted, but the result was bad. The speaker would have you believe that he had done his part and that the system was at fault.

Now, it is worth while to consider briefly where the difficulty lies; and without entering the discussion of asepsis as opposed to antiseptics

—absence of dirt versus sterilization, of dirt,—without advocating special methods or dressings, attention may be drawn to practical difficulties which lead to misunderstanding.

A few men, like Mr. Tait, vigorously attack the theory of Listerism, while they themselves carry out the principles underlying its success. The reputation of Mr. Tait, however, rests upon his operative work, and not upon his opinions or his explanations. When in characteristic style he says (*British Medical Journal*, Sept. 27, 1890, p. 728): . . . "The tone and attitude adopted by Sir Joseph Lister at Berlin clearly shows that the whole sad business is on its last legs," etc. Also (p. 729): "I venture to say that before the present generation has run out the word 'antiseptic' will be all that is left to represent this strange structure." The harm that he can do is not great among the men who are doing the best work in surgery, especially in general surgery. These cannot work for a day without discovering for themselves that their results are better or worse, according to their greater or less microscopic and chemical cleanliness in operating. Active surgeons do not care how Mr. Tait explains his good results. He might refuse to believe in the law of gravitation if he choose, but as long as he did not violate it, as long as he refrained from walking out of windows or off precipices, his opinion as to the law would make little difference. Most men care little that he denies the evil potency of germs and relies upon removing decomposable material from his wounds. They remember that he deals with a peculiar membrane and its neighborhood, that he is extremely clean in his work, and they will permit him to attack Sir Joseph Lister personally, and his impregnable principles, to his heart's content; principles of the widest practical application. The harm Mr. Tait can do is to unsettle the mind of the man who is beginning his work; and, worse than that, his writings tend to salve the conscience of those who have had no training in genuine aseptic methods, who fail consequently to fully carry them out, and who joyfully fail any champion who even seems to justify their indifference.

But even among the better trained class of men, does not one often see a lamentable failure to grasp the essential ideas of surgical cleanliness?

There are hundreds of men to-day who apparently persuade themselves that mopping a 1 to 20 carbolic acid, or 1 to 2,000 bichloride of mercury solution about a wound area constitutes using "every antiseptic precaution," as the phrase goes. There are also men who will use chemicals upon a septic patient but neglect to change infected bedding. There are men who will go to an operation with the points of their scissors, the locks and serrations of their ham-

ostatic forceps, the eyes of their needles, choked with dried blood or worse material from the last operation. They never boil an instrument. Their conscience is satisfied with the carbolic acid in the instrument pan. Some men wash their hands before an operation no better than before dinner. When an instrument or a sponge drops to the floor they may rapidly rinse it in the pan and use it at once. There are other men who have trained nurses, sterilized dressings and boiled instruments, but who, after they have washed for the operation, shake hands with a spectator, put a hand in a pocket, remove instruments from an old blood stained case, help carry a table, handle dusty bottles, or use a handkerchief, and yet *say* they use every antiseptic precaution. Many men know better. What is lacking is careful self-training and what may be called an aseptic conscience. What is wanted is a realizing sense of the real difficulty in getting things clean and then keeping them so. Carbolic acid solutions as practical sterilizers are a delusion and a snare. They work slowly at best. Unless too strong for comfortable or safe handling they do little good, and they do enormous harm by quieting the conscience of the man who ought to spend more time cleaning his hands; yet how many times do we see them relied upon when they only cover dirt. Many text-books, even the revised editions of standard works, are written from a carbolic acid standpoint. Antiseptics is a failure when it is superficial.

In a recent case of laparotomy, referred to by the author's permission, the stitches cut out and the wound opened, though it afterwards united by granulation. The operator had been cleanly, but the fault was traced to a nurse who had handled the previously sterilized silk with infected fingers. In another case the paraphernalia were elaborate and the preparations minute. The chief assistant seized a falling ether bottle, old and very dirty, and without the slightest effort to cleanse the hand again it was soon in the abdominal cavity. The patient died two days later of peritonitis, which may have been a coincidence.

A few days ago, in a hospital, a major operation was in progress. The lecturer had dilated upon the beauties of the antiseptic methods. The catgut ligatures proving defective, he called for silk. There was a scurrying of nurses and an ancient open box of silk was brought. A spectator with unwashed hands threw a card of silk into the instrument pan, from which a piece was taken when scarcely wet and placed on one of the largest arteries in the body. A weak link breaks a strong chain.

In a hospital case of my own, requiring careful dissection about the face, an assistant, unknown to the operator, obtained an instrument which had been used a few minutes before in opening a

suppurating bubo. In two days the wound area was an abscess under sterilized dressings.

Not long ago, in an emergency, the writer asked at a drug store for antiseptic gauze. The druggist instantly opened a beautifully decorated and labeled tin box, unrolled quite a quantity of gauze and offered it for inspection. He was, of course, told that while that might have been antiseptic gauze once it was ruined as such by his handling; a proposition which failed completely to enter his mind. No doubt that identical roll of gauze will be retailed, and the writer fears that there are physicians who would buy it measured by the yard on his counter, and yet hardly realize that it was worthless as a clean dressing or packing. But why multiply instances to show that "antiseptics," when neutralized by some single mistake, is a failure. Which should be blamed, the system or the application?

The war about aseptics as opposed to antiseptics is a minor issue. The great fact remains that the principles of cleanliness, though adopted theoretically throughout the world, are really carried out very imperfectly by most nurses, most hospital internes, some general practitioners in town and country, even (must it be said?) by many otherwise most excellent and estimable surgeons.

This is not the place to bring forward the overwhelming evidence in favor of surgical cleanliness in saving life and promoting swift recovery from operations impossible without it. This work has been done again and again. Many of us see it daily.

Let no one be misled by the war of methods into suspecting the truth of principles. Let each of us train himself constantly to make his work clean. Only by long practice can this be well done.

In regard to the use of chemicals, it is known that in abdominal operations they are not necessary. In general surgery, including railroad and machinery accidents, better results can be obtained by the use of sublimate. Perfect asepsis, though it should be aimed at, is almost impossible as a practical measure. The assistant of the moment is often untrained, and can neither be relied upon nor narrowly watched; nurses may be new to the work, derelict or incompetent; the wound is frequently infected before it is seen. The best results in general surgery are obtained with least trouble by combining the aseptic with chemical methods.

Further, let no man venture to criticize methods which he has never fairly tried; let him also bear in mind that his trial, though honest, may be superficial, and therefore faulty through his lack of patient personal training.

In conclusion then, in answer to the question: When is antiseptics or asepsis a failure? one may say, never if real, always if imperfect.

There is no doubt that the great principle of

cleanliness in surgery, whether obtained by soap, hot water, dry heat or chemicals, has come to stay, and the sooner all of us act thoroughly upon that principle, ignoring personal discussion, the better.

3727 Chestnut street.

PATHOLOGICAL ANTEFLEXION OF THE UTERUS.

Read in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY ELIZA C. MINARD, M.D.,
OF BROOKLYN, N. Y.

"Plastic operation to straighten the anteflexed uterus."

Accepting the opinion held by the most advanced gynecologists, that anteflexion is a deformity, and belongs to the group of pathological conditions which govern that order of lesion, there will be no place to discuss the old terms and divisions, which have controlled the discussions and treatment of anteflexions for a term of years past.

That this lesion is amenable to the laws and rules which govern the treatment of deformities, is self evident.

Any malformation is not usually meddled with unless it disturbs the mental or physical balance of the wearer. It must be malignant, painful, unsightly, or interfere with personal comfort or happiness.

The discovery of this deformity comes after puberty; and whether the cause is congenital non-development from malnutrition, or acquired, through inflammation, or from the result of other affections, such as adhesions, pressure or tumors, the lesion is a fact, the symptoms and suffering a certainty. The mischief is done before the case reaches the surgeon.

The points to be considered when such a case presents itself are: the amount of deformity, the complications, and the direct or indirect effect which it has or will have upon the health, circumstances and happiness of the individual.

The family physician has exhausted the mechanical modes of treatment taught by his college professor, for dysmenorrhœa, endometritis, pelvic peritonitis, diseases of the tubes and ovaries, partial stenosis and, if married, sterility. He has witnessed the failure of the drugs to relieve which are extolled so highly and which bear the trademark of our own and foreign chemists; for professors still teach that flexions are normal conditions, and are not to be considered of much account in pelvic lesions.

The gynecologist begins at the beginning, and pursues the beaten course of treatment; dilatation—rapid or slow—curettage, drainage, posterior section, with glass, rubber, or silver wire stem

passary, intra- or extra-uterine support, and operation for imperfect invagination, without success. Months and years pass, surgeons come and go, till at last abdominal sections for diseased tubes give the science-tossed sufferer rest, if not here, in the grave.

Accepting the three forms of flexion: that of the body, the neck, and that of the body and neck, I have selected the third form to illustrate the plastic operation which I believe will work much good to suffering womanhood, and if done in time, will prevent the necessity of abdominal section in some cases. I take this because it came to me unsought, and the greater will include the lesser in most treatments.

The operation known as "a plastic operation to strengthen the uterus," by E. C. Dudley, of Chicago, which has been so clearly and ably described in the February number of the *American Journal of Obstetrics* of 1891. This case, which has proved so successful in my hands—and my first one at that—is a typical one of a severe type, taken after others had failed and hospitals refused admittance.

Mrs. M. C., aged 25 years, has been married six years without having children. She had been a stout, rosy girl before marriage, and had menstruated without pain or discomfort for three years before her marriage. Three months after marriage she began to have pains, and the flow became scanty. She was compelled to go to bed every month. Gradually she grew worse and lost flesh. She took on an anxious, scared look, though of a happy, cheerful temperament when she aroused herself. Her home surroundings were easy, and her husband kind and anxious. The desire for children and the great suffering induced her to seek treatment after six years of marital misery. She had followed treatment faithfully for six months without improvement save in general health. When she had spent her little savings, she sought treatment at my free clinic. The dysmenorrhœa had become well nigh maddening, and life had become a burden. She came to the clinic at the summer vacation, and my substitute, Dr. Mary W. Faunce, treated her for a severe pelvic peritonitis. On my return I found her quite well of the inflammation, and as I had had reasonably good success in this line of uterine lesions, I prepared to dilate. Upon careful examination I found anteflexion of the third form—flexion of body and cervix—of an acute angle, and fundus resting upon the bladder. Any attempt to pass the sound caused great pain, as the point of the sound impinged against the posterior wall of the canal. When the cervix was well pulled back only a small sized sound would pass. As it was near her monthly period, I resolved to dilate and drain. As she lived out of the city, she made arrangements to stay in town, and with the usual aseptic precautions, and under cocaine, I did rapid dila-

tation. It was tedious work to introduce the first instrument. It was done thoroughly, and with $\frac{1}{4}$ of a grain of morphia in form of suppository; she left the office to remain in bed at a friend's home. She returned the next day looking pale and nervous. I introduced another suppository, gave her a tonic, and she left for her home. She wrote me a happy letter, saying she had passed the monthly period without pain for the first time since the third month after her marriage.

After the next period she came to my clinic, saying she had suffered more severely than before the dilatation, and she seemed so broken up that I sent her to my office from sheer pity. Before the next period I had her come into town and remain for a week. I dilated the second time, and put in an Onterbridge's silver wire stem pessary, under the same aseptic conditions and with cocaine. The stem remained three days, when uterine contractions forced it out. She remained in bed, and suffered from the stem so much as to require hypnotics and narcotics. She passed the period in bed, without pain, and a full flow, lasting three days. There was some pelvic tenderness, which passed away under treatment. She returned home, and gained in flesh and spirits. But her experience had been so unhappy that she sought hospital treatment, and wrote me to meet her at a New York hospital of note.

The physician in charge met us kindly and appointed a time for admittance. It was here, while discussing the case, that the assistant physician mentioned this plastic operation of Dr. Dudley's, and agreed to do it. When the time came for entering, an examination was made by the visiting physician, who decided that the case would be too tedious, as there was some pelvic peritonitis, and there were more urgent cases needing the bed, and she was sent home. I was thoroughly disgusted, and hoped I had been relieved of further anxiety. But she returned to me, stating that her husband had decided with her, that as I had given her the most relief, they wished I would do the operation discussed at the hospital, or any other operation I deemed proper, for her relief, as she feared she would be driven to suicide if it went on longer.

I called in consultation Dr. Faunce, who had seen her first, and described the operation I wished to do and sought her help. She entered into my views with enthusiasm, and we made ready to operate. Upon a thorough physical examination we found the left ovary and ligament quite tender, and an abdominal aneurism as complications. The heart at times was heavily overworked, but no organic lesion.

The uterus was of normal size, high up, lying over upon the bladder, and the cervix bent forward, making an acute angle. The neck measured $1\frac{1}{4}$ inch in length to the bend, which was at the internal os. There was a profuse discharge

and a severe endometritis. The sound would not pass. The anterior lip was long, the angles of flexion were immovable, and the cervix could not be straightened out. The anterior wall was thinned, and there was evidently obstructed circulation. The overburdened heart was acting in sympathy with the disturbed nervous action. The case was not an encouraging one. The *Obstetrical Journal* arrived at this junction, and Dr. Dudley's article, so ably written, was scanned with intense interest. The more we discussed and read the more we decided that this was the operation, and our enthusiasm increased. The patient aided us by her courage, and urged us not to wait over another period. The complication of the aneurism damped our ardor somewhat, but after a week's rest and treatment, we put her on the operating table, and with the usual aseptic care, etherized, dilated, curetted, washed out the cavity with solution of carbolic acid; then divided the posterior lip with scissors to the junction of the wall of the vagina with cervix, and carried the incision up to the interior os with the bistoury, then bent the cut surface upon itself and stitched the external os to the point of the cut angle near the internal os, with silkworm fibre.

We cut out a portion of the anterior lip from the external os to the vaginal wall, and enclosed the wound. The operation resembled a fine lacerated cervix which had been done in an aseptic manner. A Peasley sound entered readily, and a new canal, pointing backward, formed an entrance into the uterus at a slight curve. The uterine discharge ceased from that day.

She rallied from the ether and operation well. She did not vomit, nor was much sick. The usual toilet and diet was given. The aneurism gave some trouble and much anxiety, and was controlled by opiates. The operation gave no trouble—the stitches were removed the eighth day. The healing was good; the Peasley sound passed easily without much discomfort. She was kept in bed till after her monthly period. She was kept under observation till the second period, when she was allowed to return to her home, and a letter came before I left, stating that she was living a new life, and had had but one heart attack.

The limited time will not allow me to discuss causes and reason for operation. The author of the operation has so candidly and conservatively done this in his paper that there is no need to do so. All will receive gladly any added treatment which will lessen the suffering of the dreaded dysmenorrhœa and that of sterility. I would not have the old treatment ignored. All means should be used to cure. It is as easy to do as a posterior section, adding a few minutes for stitching; and more safe with its aseptic wound than rapid dilatation. In well chosen cases it must succeed more or less, whether the indications are wholly or in part mechanical.

Whatever may be the complications, there can be no harm in making a clean, open canal for the easy flow of the menstrual fluid; to place the uterus upon a higher plane, and relieve the pressure of the rectum and the irritability of the bladder.

I will be pardoned if I am seemingly a little over enthusiastic for such relief to my suffering sex, and if I place the author of this operation—though wholly unknown to me—among the other benefactors of my sex, Sims, Emmet and Sir Spencer Wells, it is because as a physician I appreciate results.

THE RELATION OF ATMOSPHERIC CONDITIONS TO INTERMITTENT FEVER.

Read by Title, in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1894.

BY HENRY BIXBY HEMENWAY, A.M., M.D.,
OF EVANSTON, ILL.

Among the various State Boards of Health, perhaps none have done more to raise the standard of the medical profession, and to defend the public against impostors, than that of Illinois. None has probably done more for the science of medicine than that of Michigan. What is said of the Boards, applies especially to their executive officers, who have given the distinctive character to the bodies of which they are members. Dr. Henry B. Baker's laborious care in collecting statistics, and zeal in spreading information are well known, and his work is highly valued. Like other mortals, he is liable to errors of judgment, and we fear that in such an error originated his articles on "Malaria and the Causation of Intermittent Fever," published in *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* (Vol. xi, p. 651, etc., and Vol. xv, p. 561, etc.), having been read before the appropriate Sections in 1888 and 1890.

The first article, coming from so high a source, commanded attention; its repetition demands the most careful investigation. If the conclusions are fallacious, the fallacies should be clearly exposed. If his reasoning is correct, the discovery is important, for it shows that the individual can easily protect himself from the disease by wearing suitable clothing, and keeping his surroundings as even as possible—keeping the house warmed by fires at night, for example. On the other hand, coming from so high an authority, by many the ideas will be regarded as facts until proved otherwise.

The articles in question do not show the judicial spirit of impartial investigation usually found

in Dr. Baker's studies, but rather show a labored, and, as Dr. Lee characterized it when the article was first read (*THE JOURNAL*, Vol. xi, p. 653), "ingenious" argument to demonstrate a pet theory. They show how unconsciously a careful student may sometimes be misled and blinded by impressions. That the results reached are consistent, neither with each other, nor with facts, we shall try to point out.

His first conclusion is that "intermittent fever is proportional, either directly or indirectly, to the average daily range of atmospheric temperature." This sounds well, but reminds one of a test for flour once given by a good lady: "Take a pinch of the flour and throw it against the wall. If it is good it will stick—or else it won't." If the proportion is sometimes direct and sometimes inverse, does it not seem that any argument based upon it lacks stability? If we grant that this double relationship is a possible cause of the fever, has the author presented sufficient proof of the existence of such a fact? The proof is in the form of tables and diagrams, which we will examine.

Figure 1 of Dr. Baker's series shows that during the late war, the number of cases of intermittent fever in the United States Army, and the average daily range of temperature, both increased up to May. In June we find a much greater rise in the curve of cases, but a fall in the daily range of temperature. In July there is a steep decline in the curve of cases, but a rise in the other line. The daily range of temperature continues to rise until, in August, it reaches its highest mark. From July the number of cases increases until September. From their highest points, both lines decline until, in December, they touch bottom. It will be seen that part of the time the lines go in the same direction, but that during much of the time the case line variations are a month behind the other. This Dr. Baker explains by saying that it is due to the accumulation of old cases.

There are two elements of fallacy in this table. Reference to figure 2 shows that the line representing the daily range of temperature in Lansing is very different from that for the average of the State of Michigan. The case line in Fig. 1 represents a wide range of country—wherever the National troops were stationed. Some were in Texas, some suffered in Florida. Many shook at Charleston, and some were taken sick in the Northern cities. If Lansing atmosphere, in the interior of the State of Michigan, is not to be taken as a basis of comparison for the State of Michigan, how much less should the sickness in the whole army be compared with the atmospheric conditions around a single building, in one corner of the battlefield.

Secondly, Fig. 1 is a partisan table. Such a study as we are now engaged in is not a control

NOTE.—For tables and diagrams 1 to 12, inclusive, see Dr. Henry B. Baker's paper on "Malaria and the Causation of Intermittent Fever," published in this journal, Vol. xi, p. 651.

experiment. If it could be shown that intermittent fever increased and diminished, either exactly with or inversely with the daily range of temperature, keeping other conditions stable, one might perhaps be justified in making deductions therefrom. Since other conditions cannot be kept stable, they must be carefully examined, and eliminated as possible elements before drawing conclusions, especially if the variation in case and daily range of temperature lines do not bear a constantly definite relationship to each other. It must be remembered that *post hoc* is by no means always *propter hoc*. We would therefore have expected at least a report on the mean monthly temperature, and should have liked to have seen some reference perhaps to the mean monthly maximum and minimum temperature, and absolute and relative humidity of the atmosphere.

From the "Tables of Differences of Mean Temperature," published in "Smithsonian Contributions to Knowledge," I obtained the average monthly temperature of the following fourteen points, intended to fairly cover the field occupied by our army: New York City, Baltimore, Washington, Charleston, Cincinnati, St. Louis, Chicago, New Orleans, Knoxville, Atlanta, Louisville, Fortress Monroe, Ft. Morgan (Mobile), and Galveston. From the same source I obtained the mean daily range of temperature at Ft. Morgan (Mobile Point, Ala.), Washington and Philadelphia, and from Dr. Baker's paper I took the daily range of temperature for Memphis. These reports each represent a series of years and are substantially correct. I could wish that, as for daily range of temperature, I might have found more data available. From the means above mentioned I obtained mean daily range of temperature and mean temperature by months, for comparison with the number of cases of intermittent fever in the army, as shown in table and diagram 13. It will here be noticed that the daily range line rises from the low point in January to the highest point in May. From May it slowly declines about a degree to July, and then rises less than half a degree to September, from which latter point it declines to January. The mean temperature curve rises to its highest point in July, remaining nearly stationary until August, and then declining to January. The case line starts to rise from December, and reaches its first crisis in June, from which it falls to July, and then reaches its highest point in September. Its low point is before the low point of both the mean temperature and daily range. Its high point is four months behind the daily range crisis, and two months after the highest mean temperature. If the disease is the *direct* result of atmospheric conditions of temperature, we should expect its crisis to correspond with the crisis of one of the other lines. If the fever is an *indirect* result of the temperature conditions, we should expect its crisis to fol-

low the crisis of the temperature, which it does in this case. The fall in number of cases from June to July, without corresponding changes in either of the other lines, clearly intimates to the student that there is some other element which must be considered. This I think is humidity, and perhaps ozonic changes also have an influence.

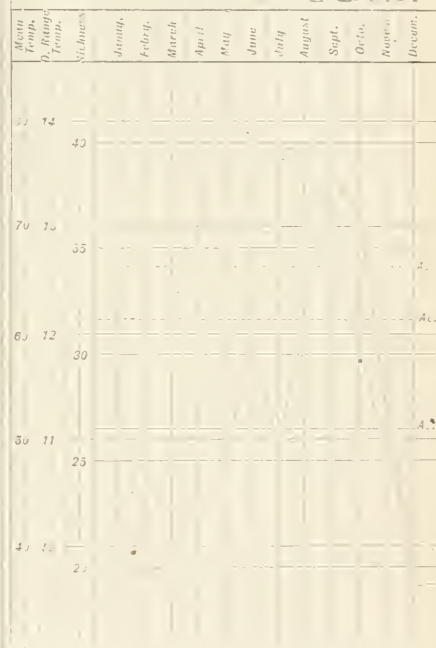


Diagram No. 13, showing average temperature 14 stations, average daily range temperature 14 stations. Cases per 1,000 intermittent fever in U. S. Army. Yearly means horizontal lines.

That the fall in the daily range of temperature from May until June is not responsible for the fall in number of cases, is shown by the fact that even in July (giving the advantage of two months fall) the daily range of temperature is *far above* the average for the year, but in July the number of cases of fever is *below* the yearly average. Further: although the case line from June to July is about five-sixths of case line from May to June, the daily range of temperature line from May to July is only about three-sixths of the daily range line from April to May.

A comparison of figures 2 and 3, clearly intimates that the disease in question is much more closely related to the absolute temperature than to its daily range, for the per cent. of reports of intermittent fever in Michigan has its highest

and lowest points exactly corresponding with the maximum temperature, and throughout the lines do not antagonize. On the other hand, from February to March the average daily range of temperature decreases without a like change in the case line; and the daily range line reaches its climax two months earlier than the case line, and the lowest point for daily range is a month before the lowest number of cases.

In studying Michigan tables, it must be remembered that the per cent. of reports does not necessarily represent the per cent. of cases. Blanks are sent to correspondents of the State Board of Health, asking them to report simply the presence or absence of the diseases mentioned. If ninety per cent. of these correspondents have only one case each the report would be greater than if seventy of every hundred averaged five cases each and the other thirty per cent. had none. The importance of this word of caution may be seen from a study of the annual reports of the State Board of Health. They divide the State into eleven divisions, for the ten years from 1877 to 1886 the reports of intermittent fever from the upper Peninsula were only 9 per cent., while from the Northern Division of the Southern Peninsula they were 27 per cent., and from the Southwestern Division 81 per cent., and from Southeastern Division 71 per cent. In the Southeastern Division in a single month there are probably more cases of intermittent fever than during an entire year in the upper Peninsula.

From the Michigan State Board of Health Report for 1888, I compiled table and diagram 14, showing the mean monthly temperature, absolute and relative humidity, day and night ozone for a series of years, compared with the per cent. of reports of intermittent fever as given in Dr. Baker's article. It will here be noticed that the curves representing the mean temperature and absolute humidity correspond closely with the per cent. of cases. Secondly: That in the main as the per cent. of night ozone increases the per cent. of cases decreases and *vice versa*. Thirdly: The same is true of day ozone, though not so exactly. Lastly: The relative humidity does not seem to have any relationship with the per cent. of cases.

The reports for Memphis, Tenn., (table 4) strengthen the idea that the absolute temperature and not the daily range of temperature is instrumental in the production of the fever. The mean temperature and number of cases both reach their climax in July, two months after the greatest daily range of temperature. There are, moreover, decided changes in the daily range line without any appreciable effect upon the number of cases.

In Cincinnati (table 5) the climax in the daily range line comes in May. That of temperature in July, and that of cases in August. We find a

great increase in the number of cases following the spring floods. There are very great variations in the daily range line without corresponding variations in the number of cases.

The San Francisco diagram (No. 6) shows all lines reaching their highest point in September, but here again the case line follows the mean temperature more closely than the daily range. The relationship of the lines, especially from May until August, clearly shows that there is some other factor besides temperature which produces the disease.

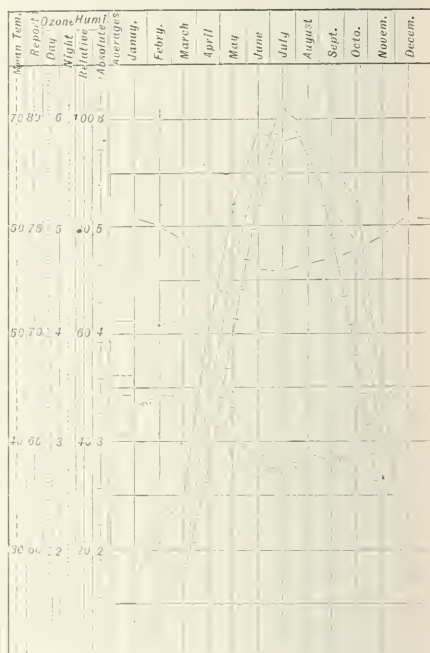


Diagram 14. Michigan. Showing average, 1, temperature (10 years); 2, ozone, day and night (10 years); 3, relative humidity (10 years); 4, grains of vapor per cubic foot of air (10 years); and 5, per cent. reports intermittent fever.

Diagrams 7 and 8 representing New York City and State, each show daily range line highest in June. Mean temperature highest in July, but the highest number of deaths from intermittent fever in September. It must be noticed that while other tables all refer to *sickness*, the data here refer to *deaths*. Since sickness must precede death we should expect the greatest number of deaths at least one month after the highest temperature, if high temperature is the cause of the disease.

Evidently the meteorological data in the State diagram are those of New York City. The daily

range is exactly the same as in the table 7, and the variation less than half a degree in the mean monthly temperature arises from the fact that for one table (No. 7 the figures are obtained by taking the reports from 1870-83, and in the other (No. 8 the reports used are from 1871-85. Believing that this did not represent the facts, New York City being about 150 miles south of the centre of the State, I prepared table and diagram No. 15, using for comparison reports for a series of years at Mohawk,¹ which is almost exactly in the centre of the state.

In table 9 we again find the greatest daily range of temperature in May, four months before the greatest sickness, and the highest temperature in July. This table is probably the most nearly correct of any in the series which cover more than a limited area. It illustrates, however, how difficult is such a table to prepare. If we imagine ten posts placed upon the same meridian, and each one of the nine southern posts having 1000 men, while the one northern post has 9000, the mean temperature of the ten posts would not give the average temperature surrounding the men. To get the correct figures the mean of the nine southern posts must be averaged with the one northern post. Here, as in the New York tables, it is to be regretted that the Doctor did not state his authority, giving the names of the stations used.

Tables 10, 11, and 12 quite contradict Dr. Baker's previous argument, and tables 10 and 11 representing India, also show that high temperature does not produce the disease. Here we find the highest temperature in May and June, the greatest daily range of temperature in February, and the least in August, but the most sickness in November.

If we suppose the daily range of temperature is equally above and below the mean temperature, we may get approximately the mean maximum and minimum temperature. This may be seen in table and diagram No. 16.

It will be noticed that in most places heretofore studied in this article malarial fever is most common at a temperature between 60° and 85° F., especially at about 70°. Neither extreme heat nor extreme cold are favorable for the disease. A glance at diagram 16 shows that until April the mercury every day went below 60°. From April to June each day it went above 95°. As soon as the minimum went above 60° the cases of sickness increased, and when the maximum came down to 87° there was a much greater increase. Every gardener knows that the young plant requires much more favorable surroundings than it does at a later period. An occasional high or

low temperature would kill the young plant while the old one might thrive. So while a temperature of 56° does not favor the development of the fever, neither does it stamp out the developed disease.

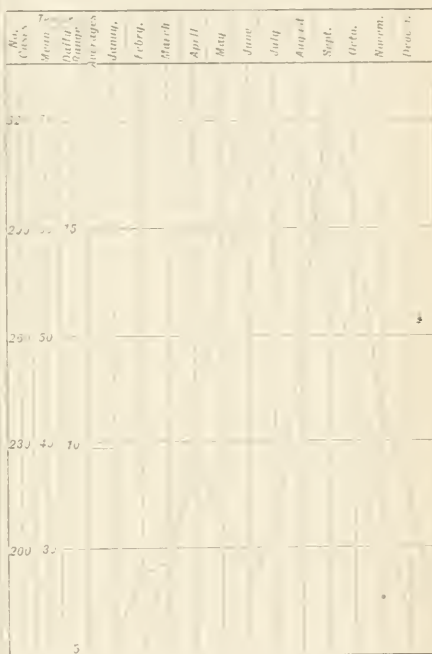


Diagram No. 15, showing number of deaths from intermittent fever in New York State and mean and daily range of temperature at Mohawk.

There is another potent factor not shown in these tables. In "Hirsh's Handbook of Geographical and Historical Pathology," Vol. 1, p. 257, we read: "In the malarious regions of the tropics the fevers appear as a rule at the beginning of the rainy season. They increase in extent and severity with the increasing rainfall, remitting usually at the height of the rains, especially if they be very heavy, and reappear towards their cessation or directly after the rainy season, which is, as a whole, the season when the conditions are most unfavorable to health." Again, on page 269: "The production of malaria takes place on the largest scale where the soil is constantly saturated or periodically inundated." A friend residing in Lucknow informs me that from about June 15 until September 20, it rains almost daily, but from September until June all the rain put together would not make a good Michigan shower.

¹ "Tables of Differences of Mean Temperature" in Smithsonian Contributions to Knowledge.

NOTE.—I have searched for meteorological data for India, but did not find more than generalizations. I have therefore been obliged to use the tables of Dr. Baker—his authority not stated.

Table 12, to my stupid mind, shows nothing, unless it be that the daily range of temperature has *nothing* to do with the disease. As drawn, the lines coincide in but one place, August. There are most marked changes in the daily range, without a corresponding variation in the number of cases. Not being able to obtain the mean temperature of Ft. Apache, I took that for Camp McDowell,² shown in table and diagram 17.³ Camp McDowell is near Ft. Apache, and practically on the same isothermal line.

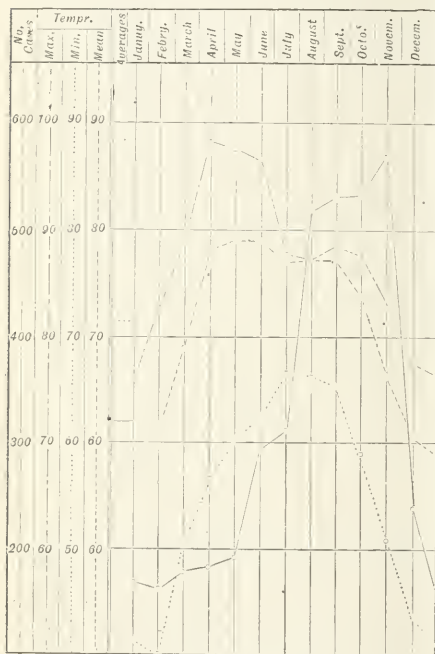


Diagram No. 16. India. Showing average maximum, minimum and mean temperature, and cases of intermittent fever among native troops.

Dr. Baker's second conclusion is that "the controlling cause of intermittent fever is exposure to insidious changes, or changes to which one is unaccustomed, in the atmospheric temperature." If this is true, why is the disease so much more prevalent in hot countries than in those that are cooler? If this is true, why does not the sickness follow closely the daily range? This many of the diagrams studied show that it does not. A patient under the care of the writer since this article began, was exposed to decided

variations of atmospheric temperature. For two days she was obliged to be where the temperature was quite uniform through the twenty-four hours. She had no chill until after these two days of unusually even surroundings. This case is illustrative of many.

"The daily range (of temperature) diminishes from about lat. 40° in either direction, north or south. The precise latitude of maximum range cannot yet be given."⁴ If conclusion two is true, there would be more malaria around Philadelphia

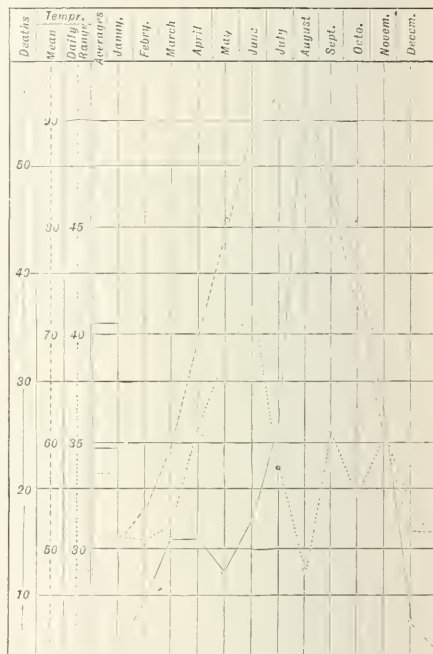


Diagram No. 17, showing average temperature at Camp McDowell, Ariz., and daily range temperature, and cases of intermittent fever at Ft. Apache, Ariz.

than around Charleston—more in Connecticut than in Florida. Is that the fact? If so, I for one am greatly mistaken. In Michigan,⁵ the average daily range of temperature at Detroit is 15.79°; at Kalamazoo 16.93°; at Marquette 17.20°; Traverse City 19.13°. If the disease is due to daily range of temperature, we should find more of the fever around Marquette than near Kalamazoo, and more near Traverse City than in Detroit. I do not understand that to be the fact.

If the daily range of temperature is an impor-

² Mean 1866-70. "Tables of Differences." Smithsonian Contributions.

³ Small variations in this case line are unimportant, on account of the small number of cases represented.

⁴ Report of State Board of Health, Michigan, 1888, p. 25.

⁵ "Tables of Differences of Mean Temperature," p. 156, Smithsonian Contributions to Knowledge.

tant element in the production of intermittent fever, why should a change of climate develop the fever? Dr. Baker says: "It is a common observation that persons who travel northward or to a colder climate, where ague is comparatively rare, not infrequently have one or more paroxysms of chills and fever soon after the change." During the war I noticed this on a large scale after movements of troops from the South."⁶ Dr. Baker's explanation is not a reasonable one for me, for the reason that the temperature changes are perhaps less in the Northern than in the Southern home. In Michigan, for example, Dr. H. T. Calkins, one of the oldest practitioners in the northern part of the State, and a close observer, tells me that at Petoskey they never have malarial fever, *except in persons recently from a malarious country*. I am told the same of Mackinac. If this is true, it is a most important fact, and my own observation leads me to accept it. An individual going from Southern to Northern Michi-

The explanation of these phenomena which I have adopted, I think was first suggested by Dr. Bowditch, of Boston, though not in this exact form. The malarial poison, whether chemical or germ, acts upon the liver in such a manner as to slow the elimination of effete matter. The elimination of effete matter is accomplished through the liver, skin, kidneys and lungs. In the state of health these organs assist each other, keeping a normal balance. If an individual goes from a warm to a cold climate, the elimination through the skin and lungs is decreased. If the liver and kidneys are healthy, no harm results. If, however, as in the case of the malarial person, the liver is sluggish, it will be unable to do the work devolving upon it, and the system is poisoned with the non-eliminated effete matter. This irritates the brain and produces the chill and increase in temperature. This theory exactly agrees with my clinical experience. Antipyretics have little effect upon the disease until the liver is cleared.

TABLES FROM WHICH THE ACCOMPANYING DIAGRAMS WERE DRAWN.

No. 13.—Average Temperature, 14 Stations. Average Daily Range Temperature. Intermittent Fever, U. S. A.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Average Temperature	39.12	44.13	48.18	57.28	66.17	73.59	77.99	76.55	70.55	59.29	48.99	40.86	61.10
Daily Range Temperature	9.70	11.81	12.20	12.75	14.39	13.75	13.60	13.62	14.74	13.45	11.69	9.77	12.88
Sickness	19.4	19.6	20.4	23.6	24.5	30.6	25.2	35.5	36.5	25.1	19.3	20.3	

No. 14.—Michigan Day and Night Ozone. Relative and Absolute Humidity. Average Temp. Per cent. Int. Fever.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Day Ozone	3.33	3.46	3.44	3.21	3.09	2.88	2.69	2.55	2.74	2.78	3.01	3.18	3.06
Night Ozone	3.91	4.04	4.07	3.56	3.31	2.95	2.55	2.49	2.54	2.99	3.35	3.53	3.32
Relative Humidity . . . . .	.81	.80	.77	.69	.65	.72	.72	.74	.75	.76	.79	.82	.78
Absolute Humidity	1.38	1.51	1.81	2.75	3.91	5.27	6.07	5.84	4.99	3.71	2.30	1.73	3.44
Average Temperature	20.56	21.62	29.50	44.33	59.68	68.10	70.52	68.14	61.67	50.85	36.68	26.60	49.11
Per Cent. Fever	58.4	60.8	62.75	70.4	75.8	77.8	79.5	79.0	79.9	76.1	67.0	53.8	70.4

No. 15.—Deaths New York State from Intermittent Fever. Average Temperature and Daily Range. Mohawk.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Average Temperature	20.57	22.51	27.68	42.33	54.89	64.59	69.64	67.73	54.77	47.04	34.06	23.12	44.2*
Daily Range Temperature	7.21	9.27	11.06	13.72	15.72	15.04	17.00	15.85	14.89	11.03	6.49	6.28	12.2*
Deaths	176.	193.	196.	225.	208.	191.	201.	258.	325.	297.	247.	216.	228.

No. 16.—India. Av. Maximum and Minimum and Mean Temperature. Intermittent Fever Native Troops.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Av. Max. Temp.	76.0	83.0	88.5	98.2	107.3	108.4	87.1	86.4	88.1	87.0	82.1	77.4	
Av. Min. Temp.	41.2	39.5	30.1	36.4	61.1	63.0	66.0	65.5	59.2	39.5	43.8	53.3	
Mean Temp.	58.6	61.4	69.3	77.3	79.2	79.2	76.9	76.5	76.8	73.1	65.3	60.6	71.3
Sickness	163.	156.	178.	181.	195.	207.	307.	517.	537	535.	557.	244.	324.

No. 17.—Average Temp. Camp McDowell. Daily Range Temp. and Intermittent Fever Ft. Apache, Arizona.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
Average Temperature	50.36	53.95	59.04	69.69	78.83	88.60	92.43	89.58	83.53	73.22	60.90	52.49	71.6*
Daily Range Temperature	30.56	30.30	30.86	35.91	38.94	41.31	33.34	28.99	35.64	32.64	35.22	30.70	33.7*
Sickness	4.62	9.02	14.77	14.78	11.69	17.06	25.59	56.78	30.12	40.75	26.60	7.70	23.4*

gan will, unless specially protected, generally within from four to ten days show clear indications of malarial poisoning. The first symptom is not a chill, nor a fever, but a copper-colored skin. The purer air causes the blood at first to flow more freely through the cutaneous capillaries, which, showing through the jaundiced skin, misleads the victim to report excess of tan. A few days later and a chill occurs, followed by a fever, and if left to itself, the disease progresses until it assumes a typhoid type. For the production of this condition I am confident that it is not necessary to bring in a typhoid fever germ.

Catharsis is not the essential factor, because compound cathartic pills and other like drugs may be given until the patient is exhausted, without any material benefit. On the other hand, if the case is seen early, calomel may be given in so small doses as to effectually clear the skin, without producing catharsis.

If a person residing in a malarious country, not being sick at the time, takes a thorough mercurial treatment before going to the North or to the sea shore, he will probably escape the usual sickness. While I would emphasize the importance of extra care as to clothing in making this change of climate, I regard the preparatory treatment as the more important. In fact, a person

⁶ Jour. Amer. Med. Ass'n, Vol. xi, p. 653.

* Loc. cit., footnote.

whose liver is active will need less clothing for comfort than if his liver is sluggish.' In some cases, it is necessary to continue small doses of the chloridé or iodidé for some time.

The usefulness of this treatment is generally known, and is admitted by Dr. Baker in conclusion seven. If, however, his theory is correct, any cathartic, decreasing the tension of the portal circulation, or heavy clothing would prevent the outbreak, as well or better.

How does a mercurial decrease the temperature? It certainly has an antipyretic influence upon a malarial fever or upon diphtheria, but it does not have any appreciable effect upon a healthy person. This effect is certainly not derived through increased heat elimination, and it must therefore be by reducing the production of heat. Since, however, it does not materially check the production of heat in a healthy person, this result must be the incidental result of the removal or neutralization of the irritating cause of the fever. If this is true the fever following a chill is not the result of non-eliminated heat being stored up, as Dr. Baker suggests. Further, if I am not mistaken, the experiments of Osler show that in intermittent fever there is increased heat production.

With regard to conclusions three and four it might be asked, how does Dr. Baker's theory explain the *cause* of delay in reaction from cold. The healthy person would react promptly; therefore this delay in reaction shows that neither the chill nor the fever represent the beginning of the disease. The mechanical effect of a chill may be a local congestion, but as soon as the cause is removed the system reacts and the only results are local primarily. If the intermittent fever is the result purely of the daily range of atmospheric temperature, since the body is daily exposed to the cold, the chill and fever would always be of the remittent type.

I am surprised to see conclusion six repeated. "In our climate those measures, such as drainage, which enable the soil to retain warmth during the night and thus reduce the daily range of temperature immediately over such soil, tend to decrease intermittent fever among residents thereon." Does drainage enable the soil to retain warmth? Almost any boy will tell you that sand in the sun is hot, but as soon as a shadow is thrown upon it it cools off. The rich black loam heats slowly and cools slowly. Dry climates are those most subject to great range of temperature. In northwestern Texas the traveler may suffer extremely from the heat by day, but at night he covers himself with a thick blanket and places a little water in a saucer from which he skims a thin layer of ice in the morning. In India we have already seen that there is the

greatest range of daily temperature when the ground is dry. Dr. Chas. Denison took the records of 25 dry and 25 moist climates and obtained therefrom the mean daily range of temperature for four classes of places as follows:⁹

- | | | |
|----|-----------------------------|---------|
| 1. | { Extreme dryness, 36.51° | } Fahr. |
| 2. | { Moderate dryness, 20.63° | |
| 3. | { Moderate moisture, 17.09° | |
| 4. | { Extreme moisture, 13.61° | |

On the contrary, then, drainage increases the daily range of temperature, and so if Dr. Baker's theory is correct it ought to favor the production of intermittent fever.

On page 417 of the Report of the Michigan State Board of Health for 1880, I found the following report from one of the correspondents of the board. "During the first half of the month (August) the moisture in the air was as abundant and the temperature so uniformly high, that unhusked corn in the shock, also corn in the corn cribs began to grow vigorously. During the third week of the month malarial diseases rapidly arose, which I think was partially due to the prolonged uniform heat and moisture. There was also one half less azone during the first half than during the last half of the month." This report is for Washington, in the southeast part of the State. From the same report, pages 317, 321, 326, 344, and 349, I get the mean temperature, absolute humidity, day and night ozone at Washington, and mean daily range of temperature at Detroit as follows (having no like data for Washington).

TABLE 18.

MONTH.	TEMPERATURE.		ABSOLUTE HUMIDITY.	OZONE.	
	MEAN.	DAILY RANGE.		NIGHT.	DAY.
June	64.21	18.43	5.21	2.42	2.22
July	72.47	18.84	6.31	1.21	2.06
August	68.54	18.74	5.17	0.85	1.65
Annual Mean . .	46.44	16.60	4.01*	3.07	2.97

It will be noticed that during these three months of summer the thermometer kept constantly within the range we have before found the most favorable for the production of malaria. While the daily range of temperature was higher than the average it was not as great as in May (22.48").

A monograph by Dr. G. H. Wilson, of Meriden, Conn., member of the State Board of Health, published several years ago, gives an account of the progress in a definite direction from southwest to northeast, of intermittent fever. This seems to be strong evidence that the disease is due to a specific poison or germ.

From clinical evidence and meteorological investigations therefore it appears:

1. That intermittent fever is due to a specific germ.

* Ordinarily prescribe two cathartic doses of calomel combined with ipecac, the first to be taken a week before starting, and the second three days after.

⁹ Transactions of Ninth International Medical Congress, Vol. V, p. 40.
Grains of vapor in cubic foot of air. Average for 9 months, No report for January, February and March.

2. That the development of this germ, and hence the production of the fever is favored by a moist atmosphere ranging in temperature between 60° and 85° F.

3. That the germ is taken into the body by inhalation or through drinking water.

4. That the fever is the result of irritation of the heat producing centre of the cerebrum. This irritation is perhaps partially due to the direct effect of the specific germ, but it is also due to the retention in the circulation of effete matter.

5. That under favorable conditions the true malarial fever may assume the character of a genuine typhoid fever, without the agency of a typhoid germ.

6. Exposure to an average temperature below that to which the person is accustomed, may develop a latent malarial condition, but exposure to cold does not produce the disease.

7. There being no definite and constant relationship between intermittent fever and the daily range of atmospheric temperature, we must conclude that daily variations in atmospheric temperature are not essential for the production of the disease.

Ozone is a potent germicide. It seems to the writer that its influence upon the disease is incidental and negative. When ozone is abundant it attacks the germs in the air and deprives them of their virulency. There is less ozone over swamps than in the open fields; less in the winds filtered through the underbrush, than in the same winds before reaching the woods. There is more malaria on the windward than on the lee side of a swamp. Conditions favorable to the growth of malaria are therefore destructive of ozone.

That the presence of ozone in the atmosphere does not greatly increase the power of the human organism to withstand the effects of the germ, I am led to think from the fact that a person going from a malarious region, where the amount of ozone is small, to a colder region, where the amount of ozone is greater, is almost sure to have strong signs of malarial poisoning soon after arrival.¹

The occurrence of the fever at high altitudes and in cold weather are sometimes mentioned as arguments against the paludal theory of the etiology of the disease. Let me simply hint at an explanation. One day after clambering up the crags on the coast north of Larné, Ireland, I was surprised to find myself in a bog while still close to the edge of the high cliff. Again: the upper plateau of Mackinac Island is 295 feet above

the water's edge, and yet there one may find marshy ground.

The heating of the house in winter draws air from the cellar. The air of the house is not so rich in oxygen as that out of doors. One may therefore find in the house in winter the necessary heat, moisture, and decaying vegetation—all the atmospheric conditions known to be essential.

MEDICAL PROGRESS.

MODE OF ENTRY OF THE TUBERCULAR POISON INTO THE BODY.—A very good summary of the various paths of infection adopted by the tubercle bacillus is given by C. BOLLINGER in the *Münchener Med. Wochenschrift*, 1890, No. 43. He considers that the frequency of infection through the skin has been under-estimated. Several cases have been recorded of direct inoculation by wounds received from broken spittoons, etc., by bites, after circumcision, by morphia syringes, and earrings. Eczema and impetigo increase the susceptibility of the skin. No case has as yet been attributed to vaccination, and it would appear that the tubercle bacilli are unable to live in the vaccine lymph. They also appear unable to pierce the pores of the skin as do some of the pyogenic organisms. The susceptibility of the mucous membrane is increased by inflammatory processes, such as otitis, rhinitis, conjunctivitis, pharyngitis, etc.; from thence the poison travels to the submaxillary glands and those of the neck, and generally causes local tuberculosis of the glands. The chief point of infection is of course the lungs. Local predisposition is best exhibited by apices which have been before diseased, but have undergone a healing process. The movement is deficient both in expiration and inspiration, and the liability to reinfection is increased by anæmia, irritants (such as coal and metallic dust), constitutional influences, such as diabetes, disturbances of digestion, and unhealthy surroundings. The poison may pass through the lungs and attack the bronchial glands, under which circumstances the disease may be very insidious. The predisposition of the lungs again exhibits itself in metastasis: not every tubercular disease of these organs is due to inhalation of the bacilli or their spores. As regards primary tuberculosis of the testicles, joints, and bones, Bollinger considers that a latent hæmatogenic infection must be understood, which leaves a little trace of its point of entry as does a primary septic endocarditis or an osteomyelitis. Tubercular disease of the larynx depends upon an autoinfection through the sputum. The rarity of this disease in children is explained by the infrequency of pulmonary cavities in the rapid forms of phthisis.

¹ Dr. Baker calls attention to the fact that persons exposed to night air over low lands are more liable to the disease than if they are exposed only through the day. It is suggestive that, according to Table 14, in Michigan the months showing the most intermittent fever also show less night than day ozone, but generally there is more night than day ozone. Does light have any influence on the growth of the germ?

Primary tuberculosis of the intestine generally, combined with an affection of the mesenteric and retro peritoneal glands, is usually occasioned by means of vitiated food and contaminated feeding utensils. Secondary tuberculosis of the intestine depends upon an autoinfection. The tubercular poison passes through to the intestine unaltered by the juices of the stomach and attacks the Peyer's patches and solitary follicles. Tuberculosis of the peritoneum, which is three or four times as common in men as in women, can arise directly from ulcers of the intestine, from tubercular abdominal glands, or, especially in women, from the urogenital tract; further, through contagion from the lungs and pleura, and finally in the course of miliary tuberculosis, or from caseous bronchial glands. Primary tuberculosis of the peritoneum is rare (3 to 4 per cent. of all cases). As regards the infection from milk, this is, in Bollinger's opinion, undoubtedly due to the udder of the cow being affected with the disease. Infection through the milk of tuberculous women has not yet been proved. In tubular form the organs of the body are thus affected, beginning with those most frequently diseased: 1, lungs, 2, the lymphatic glands, 3, intestine, 4, serous membranes, 5, larynx, 6, spleen, 7, joints, 8, bones, 9, liver, 10, kidneys, 11, the genital tract, 12, the skin, 13, the brain and spinal cord, 14, muscles.—*The Lancet*.

EHRlich's TEST IN TYPHOID FEVER.—This test, which has been known for a number of years, has till recently been regarded by many rather as a medical curiosity than as of diagnostic value. DR. C. E. SIMON, of the Johns Hopkins Hospital, has recently shown that by carefully following the precise directions for its use, valuable information may be derived. The test consists of two solutions. 1. A saturated solution of sulphanilic acid in five-per-cent. hydrochloric acid, and 2. A five-per-cent. solution of sodium nitrate. These are to be mixed, just before use, in the proportion of 40 cc. of (1) to 1 cc. of (2). If this mixture be added to urine from a case of typhoid fever, the further addition of ammonia will produce a play of colors varying from an eosine rose to a deep garnet red. The best method of applying the test is to take a few centimetres of urine in a test-tube, adding an equal quantity of the sulphanilic acid mixture and shaking thoroughly; 1 cc. of ammonia is then run carefully down the side of the tube. At the junction of the two liquids there will be observed a ring of the characteristic color, which is produced in scarcely any other disease than typhoid fever. Dr. Simon's conclusions may be thus summarized: 1. The reaction may be obtained in typhoid fever from the fifth to the twenty-second day of the disease. 2. Its absence from the fifth to the ninth day indicates a very mild

attack, save in children, although this rule is not an absolute one. 3. As it occurs previous to the appearance of the rash, it is a very useful aid in the diagnosis of typhoid fever.—*Therapeutic Gazette*.

CARDINAL POINTS IN BACTERIOLOGY.—*The Bacteriological World* says:

The words germ, bacteria, microbe, schizomycetes are used in our present literature almost as synonymous terms, but microbe seems preferable to germ or bacteria, and schizomycetes is a better scientific term than either.

That these are unicellular, and assimilate nourishment, seemingly by absorption in the media in which they live, but they must transform (alter) the foods found proper, and yet unfit in nature, for their use and appropriation.

Bacteria living on dead matter encounter no living resistance, whilst those feeding on living tissues, or fluids in living tissues, meet the living cells of the body and have to combat them.

The diastases secreted by the various beings, whether highly organized, or unicellular and microscopic, have something in common as to their respective objects, and their properties of transforming matter.

The rôle of microbes in the world is complex and necessary, though some are injurious. They act as scavengers; return to the air and water the organizable elements abstracted daily by the vegetables of the globe, and indirectly by animals, and indispensable to life.

The bacteria that invade living organisms which happen to be fit for their nourishment and growth, are in a sense parasites just as much as the tapeworm is.

Spontaneous generation of living organisms, no matter how little, is a fallacy.

EFFECTS OF STRYCHNINE ON THE STOMACH.

—The effect of nitrate of strychnine on the functional activity of the stomach has been recently made the subject of a careful research by Dr. Gamper, of St. Petersburg, who employed for the purpose of his experiments four healthy young hospital assistants. He found that strychnine increased the amount of gastric juice secreted, the general acidity, and the quantity of free acid in the secretion. It also hastened the absorption from the stomach, and strengthened the mechanical movements. Its effect, too, continued for some time after its administration had been stopped. Like many other Russian observers, Dr. Gamper seems to have been highly impressed by the value of strychnine in chronic alcoholism, declaring that it is the most effective of all drugs in such cases. The thesis contains a long list of references to the literature of stomach affections, published in six or seven languages during the last ten years.

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, JUNE 13, 1891.

MEDICINE IN JAPAN.

The progressive spirit of the Japanese people—and particularly in the direction of medicine—has of late been abundantly shown to Mr. Ernest Hart, editor of our justly distinguished contemporary across the seas, the *British Medical Journal*.

Mr. Hart has been temporarily sojourning in the land of æstheticism and flowers, and he finds very much to praise, but little to criticise, and an opportunity for suggestion, which, if wisely cultivated, may prove no less meritorious and successful in Japan than has maintained under the sterner régime of the Anglo saxon.

In the way of gratification and commendation the observer found the emergence of the nation as a unit from a vast superstitious thralldom of a not greatly-distant past; the rapid acceptance and appreciation of Science in its wonderful onward march; the newer systems of government; the improved architecture; and the advanced provisions in learning.

Upon the latter condition, it may be said—the advanced provisions in general learning—the former manifestly and entirely depend. They are simply results, sequences, as, indeed, has been the case the world over.

The Imperial University, with departments of law, medicine, engineering, literature and science, each thoroughly equipped, and especially—as trite to a medical mind—the department of medicine with a faculty of no less than fifty-five professors and assistant professors, many of

whom had attained distinction in foreign countries previous to taking upon themselves the responsibilities of leading onward the minds of their countrymen, very much impressed the Englishman.

A light criticism rested upon the system of training nurses; upon bathing facilities in hospitals; and upon the general care and comfort of hospital patients, all of which was offered in the most friendly spirit.

Then as to suggestions, which were in the line of a national medical association, and a beneficent organization possibly in connection therewith.

The value of such creations were exhibited by a clear statement of the organization, objects, method, and condition of the British Medical Association; together with a rehearsal of what the British Medical Association had accomplished, and the position, usefulness, benefits, and general scope of the *British Medical Journal*. Also the insurance feature which has been so well planned and carried out under the patronage of the Association during the past few years.

Then, with a candor equal to that taken while in the attitude of representative, critic and teacher, the English physician craved knowledge from his hearers, the strange new people—a knowledge which he all but admitted could only come from them, however high a degree of scientific skill, or prolonged a research might be required for its development.

Among the questions the profession in Japan is asked to decide are these, viz., the etiology and communicability of leprosy; the pathology and prevention of beri-beri; the influence of prolonged lactation upon the mother's health, upon infant mortality, and the rate of increase of population; the comparative immunity of the Japanese from scarlet fever, and the rarity of its spread; the nature of senile (?) gangrene so commonly found in middle age in Japan; the influence of the customary hot baths, particularly in infantile pneumonia; the apparent unimportance of hæmorrhages in typhoid fever; and the real place of massage as a therapeutic measure.

Many of these are very pertinent inquiries, and if the Japanese physicians, working under the encouragement offered by the royalty, and the stimulus which comes from the earnest watchfulness and waiting of a great race, can effect a reasona-

ble solution to any or all of them, then will the finer genius of the amalgamation of minds moulded, it may be, by irrelative race characteristics, become more patent.

Mr. Hart said in his address before the Medical Faculty of Tokio: "These are among the subjects on which we should be pleased to offer you the hospitality of our medical periodicals, and as to which we should be glad to receive communications at the meetings of our British Medical Association."

To this desire for a broader interchange of thought, to this wish for a closer union of scientific minds whose objects remain the same despite the vast distance which divides, and the different blood—commonly speaking—which gives its nourishment, the profession in America may earnestly unite.

It is really a little surprising that the Japanese mind has so quickly reacted to the impulse of learning, and is to-day so far advanced as to provoke not alone the plaudits of the more pretensions, but to create an appeal to her scientific possibilities; and although digging into the depths of recondite medicine is not at all confined by national margins, and should not be, yet inasmuch as the eyes of the medical world have pointed eagerly towards England, towards France, towards America, and lately towards Germany, it is not without the limits of probability that we may all yet look with like eagerness in the direction of promising Japan.

HIGHER MEDICAL EDUCATION.

The promotion of all efforts to advance and raise the standard of medical education is always a vital subject with those who have at heart the best interests of our profession. And it is with a sense of gratification that we note from year to year a visible improvement in the standard adopted and approved by the leading educators of our country.

An encouraging feature at this time is the effort that is being made to affiliate and more or less directly connect the best medical schools with established universities.

This works advantageously to all such institutions; it enables students in the academic course to so arrange their studies as to make the last two years in the latter count as the first two in their more strictly professional studies.

A young man who has pursued his studies in this manner has much the advantage of those who enter a medical college with an indifferent preparation. In fact the one represents the trained roadster, that easily skips along and reaches the goal in good condition. While his fellow, of equally good blood and breeding, that that has had little or no grooming, stumbles over the slightest obstacle, shies at imaginary hindrances, indifferently obeys the guiding lines, frets, sweats, and is a good deal blown at the wind up on the home stretch.

The following circular issued by the Illinois State Board of Health sets forth the situation of this subject, and very properly solicits the aid of practical teachers in making up a science course that can be adopted as a standard:

ILLINOIS STATE BOARD OF HEALTH, OFFICE OF THE SECRETARY.

SPRINGFIELD, June 6, 1891.

Dear Sir:—There is a demand, from medical teachers and young men that intend to study medicine, for a literary course preparatory to the study of medicine. This demand has been met by a few of the literary institutions in the United States, and it is hoped and believed that it will be much more generally met during the next two years. The following institutions now offer science courses for students that intend to study medicine, or that intend to teach or otherwise engage in biological work: 1. University of Wisconsin; 2. University of Pennsylvania; 3. Johns Hopkins University; 4. University of Notre Dame; 5. Yale University; 6. Cornell University; 7. Princeton University; 8. Lake Forest University; 9. Northwestern University; 10. West Virginia University; 11. University of Kansas.

As must be obvious, such a course should be based on biology, and should include thorough work in this science, as well as in osteology, comparative anatomy and chemistry, with English, French, German, some Latin, clay modeling, free-hand drawing, mineralogy, mathematics through trigonometry, mechanics, logic, general and pharmaceutical botany, and (in the last year) psychology.

It is of course understood that botany, being a branch of biology, should have a prominent place in the course.

The catalogues of the universities mentioned contain the list of studies offered in their science courses.

Such a course should extend over four years. This will involve no loss nor waste of time to the student. The Illinois State Board of Health now requires that students of medicine matriculating in the autumn of 1891 or thereafter must study medicine four years and must attend three courses of lectures,—no two in the same twelve-month, in order to obtain a license to practice in Illinois. This rule will apply also in some other States. The Illinois State Board will, however, recognize a thorough course in science, such as indicated above, as equivalent to two years' study and one course of lectures, thus enabling the student to enter the second class in the medical college. This makes the full time of study six years in the literary and medical schools, or two years less than is required of the student pursuing a strictly classical course. Not only will time be thus saved, but the science student will be much better prepared to enter the second course of the medical school than will the classical student to enter the first year.

The Illinois State Board wishes to make up a science course that can be recommended to any college wishing

to adopt such a course, and having but little time to study the subject. I desire to enlist your aid and have your advice in the matter so as to make the course as practical and as beneficial as possible. Will your faculty, therefore, make out such a course as it thinks best for the purpose, and send it to the Secretary of the Board?

The demand from medical teachers and from students of medicine having been met by some universities, must be met by all that would continue to hold a high rank as educators of young men for the work of life. Such a course is also the best preparation for the study of veterinary science. Respectfully,

JOHN H. RAUCH, M.D., Sec'y.

SOCIETY PROCEEDINGS.

New York Academy of Medicine.

SECTION ON ORTHOPÆDIC SURGERY.

Stated Meeting, May 15, 1891.

SAMUEL KETCH, M.D., CHAIRMAN.

DR. T. HALSTED MYERS presented a case of marked rickets, called congenital on the mother's positive assertion that the greatly enlarged epiphyses of the tibiae, femora, and radii were present when she first examined the child a few days after birth. The sternum at that time, she noted, also was abnormally prominent. She had been in very good health all through gestation, and the father was a healthy man. No specific history could be obtained.

At present, the child is six years of age, and presents all the deformities of rickets in a marked degree, except that the head is well shaped, and there is a marked increase of the normal dorsal curve of the spine, rather than the dorso-lumbar kyphosis usually found in these cases. An unusual degree of permanent knee and hip flexion also exists, and the patient assumes, when resting, the hand-to-knee position of Pott's disease. The epiphyseal tenderness present seemed to indicate an active stage of the disease. After being nursed nine months, the child had a mixed diet, not especially starchy, nor lacking in animal fats.

THE CHAIRMAN thought it not improbable that the spinal symptoms were the result of an acute lesion occurring coincidentally with this diathesis. In cases of simple kyphosis which he had examined, one of the points in the differential diagnosis had been the absence of psoas contraction, and in most of these cases the curve, unlike this one, disappeared when the patient was in the prone position.

DR. JOHN RIDLON exhibited the photograph of a patient, nineteen years old, who had had exactly this position all his life. There were additional curves in both the tibiae and femora, which had developed gradually during his growth. It was worthy of note that psoas contraction was also present in his case.

DR. NEWTON M. SHAFFER had seen psoas contraction in these cases of rachitis. The case just presented was not, in his opinion, one of tubercular disease of the spine, but a sensitive condition of the cancellous structure in the bodies of the vertebrae which simulates Pott's disease. He had never seen a case which he could consider one of congenital rachitis, and he was inclined to look upon this one as an instance of rachitis acquired at a very early age. It was not uncommon to find in rachitic patients a condition of the muscles somewhat resembling that found in tubercular joints. He was reminded of a case which he had seen in St. Luke's Hospital, in which there was a very sensitive joint, associated with muscular symptoms which might suggest hip-joint disease, but these were simply due to hyperæmia of the epiphysis occurring in a rachitic subject, and in due time, with proper attention to nutrition, these symptoms disappeared.

DR. RIDLON said that he had expected to present a patient illustrating certain peculiar conditions found in persons who had the caisson disease. His patient had been working in compressed air for sixteen years, and during the past year, had had forty or more attacks of the cramps which are peculiar to this disease. Associated with these were stiffness, gradual shortening, and outward rotation of the right lower extremity, with a direct upward dislocation of the hip for a distance of three-quarters of an inch. This man had informed him that he knew of a number of others who had been working in compressed air, who had paralysis with shortening of the limb.

THE CHAIRMAN said that he had seen a man, 40 years of age, who had been a caisson worker and diver, and who presented an affection of both hips. There was very little motion except in abduction. There was no history of rheumatism, or other constitutional disorder.

DR. SHAFFER had recently seen at the Orthopedic Dispensary a caisson worker, who presented bilateral hip symptoms, and who was scarcely able to walk. In this case, the symptoms were those of a pronounced rheumatic type, and the changes were apparently due to rheumatic arthritis.

DR. RIDLON also exhibited photographs of the latest modification of Grattan's osteoclast, and of some of the cases which this surgeon had treated by means of the instrument. He now used it for forcibly correcting club-feet, and in the opinion of the speaker, it was the handiest and most efficient contrivance of its class that he had seen.

NON-UNION AFTER OSTEOTOMY IN A CASE OF SEVERE RACHITIS.

THE CHAIRMAN presented a little girl with a very exaggerated form of rickets, whose symptoms indicated that the disease was still active.

The chief point of interest was the fact that about three years before, a skillful surgeon had performed osteotomy upon her for the correction of a severe form of bow-legs, and this had resulted in non union. This case showed the folly of operating in the presence of such a virulent form of rachitis. The treatment in his hands had consisted in the application of a coaptation splint, and of a perineal crutch, which by means of a snap joint allowed motion at the knee, but prevented dangerous traumatism, and favored locomotion. The idea of the apparatus was to favor locomotion rather than to attempt to secure union.

DR. ROYAL WHITMAN doubted if this treatment would lead to union of the fragments, for the end of the bones in such cases become extremely hard, and usually require to be removed before union can be secured.

DR. R. H. SAYRE thought the non-union in this case might have resulted from the fact that the deformity was so great, that in order to correct it, a considerable interval must have been left between the ends of the bone after the osteotomy.

(To be concluded.)

DOMESTIC CORRESPONDENCE.

LETTER FROM BALTIMORE.

Judged by numbers, the late session of the medical schools of this city was a great success. The following was the attendance and the number of graduates:

SCHOOLS.	MEDICAL MATRICU- LATES.	MEDICAL GRADU- ATES.
	About.	
College of Physicians and Surgeons	355	110
University of Maryland	259	88
Baltimore Medical College	125	51
Baltimore University	85	52
Woman's Medical College	22	6
Total	\$52	287

The attendance has been equally good at the dental schools. The Baltimore College of Dental Surgery having about 226 students and 77 graduates, and the Dental Department of the University of Maryland about 163 and 64 respectively. The Maryland College of Pharmacy had about 125 students and 29 graduates. So that the total number of students and graduates in medical and allied schools in this medical centre (not including the biological and preliminary medical at the Johns Hopkins University and the post-graduate at the Johns Hopkins Hospital) is about 1,366 of the former and 457 of the latter, figures the size of which I suppose few outsiders would suspect.

The Maryland College of Pharmacy has just celebrated the semi-centennial anniversary of its foundation. Its lectures were at first delivered at the University of Maryland, which set apart quarters for its accommodation. Besides the commencement and commemoration meeting of the college, the exercises included a magnificent re-

ception with music and lunch at the college building, and a banquet at night. There were visitors from New York, Philadelphia and other cities. The college is now in a very prosperous condition, has a large new building, well equipped, and has a high reputation for honest and faithful work in training young men for the pharmaceutical profession.

The College of Physicians and Surgeons introduced a novelty at their commencement this year, which has elicited criticisms both favorable and the reverse. It was the adoption for the graduates of the English cap and gown. The effect was very pretty, and the manifest advantages of having a cheap and uniform attire cannot be questioned. The college furnished the suits, charging a nominal sum for their use by the students. There does not appear to have been any difficulty or opposition to the adoption of the innovation. An attempt was made last winter to introduce the custom at the Hopkins, but it met with little favor, only President Gilman appearing in cap and gown at the anniversary exercises February 22.

Miss Mary Garrett has given another evidence of her liberality and interest in the higher education of her sex by offering to contribute an additional \$10,000 to the endowment fund of the proposed Johns Hopkins Medical School. In a letter dated April 27, addressed to President Dobbin, of the Board of Trustees, she makes this offer payable October 1, 1892, subject to the following conditions: That by February 1, 1892, the trustees raise the remainder of the sum necessary to bring the endowment up to \$500,000—the minimum limit proposed by the trustees—and further that the trustees shall give notice in February, 1892, that they will open the school in October, 1892, and shall actually open it then. The committee of ladies organized to raise \$100,000, having accomplished their object, has disbanded. The following represents the present status of this endowment: The entire sum raised by the committees of ladies of Baltimore and elsewhere and paid over to the trustees May 1 was \$111,000; there were already in hand additional funds sufficient to raise this amount to \$178,780. In order to avail of Miss Garrett's offer, it is therefore necessary to raise \$221,219. The trustees have accepted her offer and have resolved to endeavor to raise the balance required. There is no doubt that her interest is so great that she will extend the required time should it be necessary to do so. Of the \$111,300 raised by the ladies, Baltimore contributed \$68,882; the next largest contribution Boston's \$20,231, and Philadelphia's \$8,075.

Dr. George F. H. Nuttall, of San Francisco, a graduate of the University of Göttingen, has been appointed to the vacancy in the bacteriological and hygienic department at the Johns Hopkins Hospital, occasioned by the acceptance by Dr. Alexander C. Abbott of the directorship of the new Hygienic Institute of the University of Pennsylvania.

The death of Dr. John Frederick May, of Washington, recalls the fact that in early life he held the Chair of Surgery in the Trustees' Faculty of the University of Maryland, at the time when that school was split into two schools (1837-39).

The Sisters of Mercy are erecting a four-story addition to the City Hospital (connected with the College of Physicians and Surgeons), for the use of their colored patients, at a cost of \$20,000.

Dr. James Carey Thomas, one of the Trustees of the Johns Hopkins University and Hospital, has gone to Europe, and one of the chief objects of his journey is stated to be to examine into the structure and architecture of European medical schools, with the purpose of utilizing the information in the construction of the Hopkins school.

The use of the Koch lymph is gradually falling into desuetude here as elsewhere. There never was much gush over it here, and its use at the Hopkins was confined to lupus and incipient cases of pulmonary tuberculosis. A judicious skepticism and timidity characterized the attitude of our physicians towards it from the start, and consequently we have had no deaths or bad results to report. The results as a whole have been disappointing, and although a few cases are still under treatment, the probabilities are that ere long it will become a matter of the past.

The death of Judge George W. Dobbin, at his country seat near Baltimore, on the 28th of May, at the age of 87, has removed from our midst one of our most distinguished and public-spirited citizens, and one who has been very active in the cause of education. Among the positions he held at the time of his death were Regent of the University of Maryland and Dean of its Law School, Trustee of the Peabody Institute and of the Johns Hopkins University and Hospital. From 1867 to 1882 he held office as Judge of the Supreme Bench of Baltimore, and for many years had been President of the Board of Trustees of the Johns Hopkins University. He was a most courteous gentleman with a cultivated mind and scientific tastes, and he enjoyed the respect, veneration and love of the entire community.

Another death which is deeply felt among us is that of Dr. Richard Gundry, the able specialist on insanity and superintendent of our State insane asylum, which took place from Bright's disease, on April 23. He was a native of England and 60 years old. He took charge of the asylum here in 1878, having held similar positions previously in Ohio. He was also Professor of *Materia Medica* and Mental Diseases in the College of Physicians and Surgeons of Baltimore since 1882. He was an enlightened physician, a man of scholarly attainments and high professional standing.

Professor Wm. C. Jarvis, of the University of New York, delivered the annual address before the Alumni Association of the University of Maryland, on April 1st, the subject being "Glimpses of Metropolitan Life."

A very successful concert in the interest of the University of Maryland Hospitals was held on April 10, under the auspices of the ladies connected with the Faculty of that institution. The object was to raise a fund for the increase of free beds, the hospitals being without endowment. Vladimir de Pachman, the pianist, was the chief attraction, and the entertainment was a great success, nearly \$2,000 being cleared. The chief hospital of the University (formerly known as the Baltimore Infir-

mary) is one of the oldest college hospitals in the country, having been erected and opened in 1823, and being entirely under the control of the Faculty and immediately adjoining the University building it has by its clinical advantages enabled the institution to take a high rank among the medical schools of America.

The ninety-third annual meeting of the Medical and Chirurgical Faculty of Maryland was held April 28-30, under the Presidency of Professor Thos. A. Ashby, who delivered a stirring address on the need of better professional organization in Maryland. The paper of the meeting was undoubtedly that of Professor Wm. H. Welch, on the "Causation of Diphtheria." It has since been published in full in the *Medical News*, and should be read by every one who wishes the latest information on this disease from a master hand. In honoring Prof. Welch with the Presidency of the Society for the ensuing year, the Faculty has conferred still greater honor upon itself.

Dr. Randolph Winslow, Professor of Surgery in the Woman's Medical College here, has been elected to the chair of Anatomy and Clinical Surgery in the University of Maryland, in which he was formerly Demonstrator. Dr. I. K. Trimble has been elected Professor of Anatomy in the Woman's Medical College, vice Prof. Jay, transferred to the chair of Practice of Surgery. There are rumors of approaching changes in the *personnel* of the Johns Hopkins medical staff. It is announced that the organization of the "Southern Homeopathic Medical College" of this city has been perfected by the election of a Professor of Surgery (from Washington), and that the lectures will begin in October next in a rented building. When the Hopkins opens in 1892 we will have seven medical schools here!

It is to be hoped that the action of the American Medical College Association in Washington, in reaffirming by a large majority its determination to exact a preliminary Latin requirement, will settle that matter for the future with the medical schools of the country, and that those who voted for it and against reconsideration were sincere in their action. The only two schools here that did so were the University of Maryland and the Baltimore University. The former institution is making ready for the institution of the three year graded course in the fall, by the institution of histological and chemical laboratories. It has not been announced yet who will take charge of the former.

I send you the following compositions on George Washington, which are veritable curiosities in the way of preliminary accomplishment, showing as well as anything could the need of some standard at least of requirements in those who undertake the study of medicine. They were handed in by two candidates for matriculation in one of our medical colleges, *one of whom had been a teacher of a public school*. I am glad to say both were rejected.

1. "George Washington When a boy could not tell a boy could not tell a lie he cut one of his fathers Chury trees with his hatchet when Father called him and aske who cut the tree he said I cut it with my hatchet he became a man of zeal and industry was beloved by all who

knew him he fought many battels and by his cunning defeated Napoleon he married became the first president of the United states lived to a good old age. Oct ist."

II. "Jeneral Washinton was born in Virginia he was a truthfull Boy a good Chresttian a noble man in war & in peace he was the frist President of the United States of Amarica he was and considered the fathar of our country By his bravery whe are a free and independent people to think and act as whe think Best he was honest in all his ways."

I give them as near literally as I can. Yours truly,

E. F. C.

LETTER FROM PHILADELPHIA.

(FROM OUR OWN CORRESPONDENT.)

Although la grippe, influenza, dengue, horse-distemper, "it," the great unknown, or by whatever name it may be known to future medical historians, has not favored Philadelphia this spring with such obvious marks of attention as it has some other cities of the Atlantic seaboard, yet this may be explained by the fact that it committed such ravages a year ago that the susceptible material was largely exhausted. However, we have had sufficient number of these cases to supply clinicians with abundant material for study. In addition to typical cases of the disease, which are comparatively few this year, there are large numbers of abortive cases, showing the poison is still with us, and is responsible for a large amount of general ill health and lowered vitality in the community. In one respect this epidemic differs from epidemics of dengue. The late Prof. Samuel H. Dickson, formerly of Charleston, Va., noticed the fact that dengue was self-protective and that persons who had an attack would not be liable to suffer at the next appearance of the epidemic. Quite a number of persons who had influenza last year have it again this year although, it is true, as the rule, in a milder form. In the treatment, quinine seems of little use and only adds to the patient's discomfort. Antipyrin, acetanilide, sulphonal and other agents of the aromatic group, can only be used cautiously, if at all, on account of the tendency to lower the action of the heart, but where the pyrexia is marked, salicylic acid or phenacetin in small doses (gr. iii, v) given every hour or two, is decidedly useful. Small doses of Dover's powder, with a little camphor, or of the compound morphia powder for restlessness; ice to the head if there is headache; small pieces of ice swallowed when there is nausea, and a dose of calomel with jalap or rhubarb, for constipation, are often followed by marked relief. In addition to this, a good elixir of coca (Lorini) or the well-known Mariani wine or caffeine citrate will be generally needed to support the weak heart, and nervous system. During convalescence, igitatia or nux vomica should be an appropriate remedy; but patients seem very susceptible to strychnine and some complain of cramps and muscular pains. The hypophosphites with iron, form a good tonic, but the best restorative after all is a change of air to the mountains or seashore, with nourishing food given only in moderate quantity and at regular times. The above brief outline of treatment has proved uniformly

successful in the experience of the writer, who has had no deaths and few complications. In delicate nervous cases it contributes very much to their comfort to dispense with linen sheets and to substitute woolen ones, or just put the patients between blankets.

A movement is on foot to increase the endowment of the Medical Department of the University of Pennsylvania. The Trustees have accepted the offer of the Faculty to contribute \$10,000, and of the Provost, Dr. Pepper, to give \$50,000, towards a fund for additional endowment of Medical Department of \$250,000, and will lengthen the term to four years when the fund is made up; it is expected to be raised within five years. It is possible that this fund will be raised and that the University will be placed in a position to extend the course in medicine so as not to fall behind in the race with Harvard and Johns Hopkins. The death of Prof. Joseph Leidy was a severe loss to the school and to the community; but the Board of Trustees seem in no hurry to fill the vacancy. The prospects at present are that the Chair will be divided into surgical anatomy, for which Dr. John B. Deaver is an eligible candidate; and historical anatomy which may be offered to Dr. Harrison Allen, who was formerly Professor of Physiology in this institution and resigned.

At a meeting held June 2, 1891, the following appointments were made: Dr. George A. Piersoll was elected to the Chair of Human Anatomy, Dr. Harrison Allen to that of Comparative Anatomy, J. P. Grover Griffith, Prof. of Diseases of Children, in place of H. A. Hare, resigned. Dr. Edward Martin was elected Professor of Genito-Urinary Diseases, John D. Deaver was made Assistant Professor of Applied Anatomy.

The Jefferson Medical College has lost within a short time two of its most distinguished professors: Prof. Bartholow and J. M. DaCosta. The place of the former was promptly filled by the election of Dr. H. A. Hare; that of the latter is still vacant. Drs. J. C. Wilson, Frederick P. Henry, both of Philadelphia, and Jas. T. Whittaker of Cincinnati and several others, have been discussed as candidates, but the issue is uncertain. The Medico-Chirurgical College also has a vacant chair, Dr. Wm. T. Waugh, Prof. of Practice of Medicine, having resigned. It is understood that he is not without hope of a transfer to the identical chair at Jefferson.

There is a prospect that the state of Pennsylvania will give the Medico Chirurgical Hospital \$70,000, to enlarge its buildings; the legislature has passed the bill which only awaits the signature of the Governor.

The medical societies of this city keep up their scientific work manfully in spite of the influenza and unfavorable weather. At the College of Physicians' meeting last week (June 3), Dr. Oscar H. Alvis read a paper on Fracture of the Condyles of the Humerus treated by Extension—with a suit for malpractice and a verdict for the defendant, who was C. E. Kurts of Bellaire, Ohio. The last meeting of the County Medical Society was enlivened by a tilt between the operating gynecologists, lead by Joseph Price, and the disciples of Apostoli, and his electrical treatment for uterine growths, of which Dr. Betton Massey is an able exponent. The conflict has been going on for several years but the ardor of the contestants

seems to be increasing rather than abating; to outsiders it is quite entertaining.

The Society of the State of Pennsylvania, during the past week, (June 2, 3, 4 and 5,) has been holding its forty-first annual session in the city of Reading, about sixty miles from Philadelphia, in the coal and iron region. It was not as largely attended as usual. The principal addresses were that of the President, Dr. Allen Craig, of Columbia; that on Medicine, J. Chris. Lange, of Allegheny City; on Mental Disorders, Samuel Ayers, of Pittsburgh; on Ophthalmology by J. A. Lippincott, of Pittsburgh, and on Obstetrics by J. Milton Duff, also of Pittsburgh.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The recent annual meeting (its seventh) of the Fifth District Branch of the New York State Medical Association was one of the best attended and most attractive that it has yet held, and its varied scientific proceedings were of a high order. The President, Dr. Stephen Smith, took for the subject of his address "Opiates in the Treatment of Acute Peritonitis," and it was devoted principally to a detailed and graphic account of the introduction into Bellevue Hospital, by the late Prof. Alonzo Clark, of the opium treatment of puerperal peritonitis. In the course of it he quoted the following passage from Dr. Clark's description of the outbreak of puerperal fever at Bellevue in the year 1851. "In three or four days seven cases were sent me from the lying-in wards. One was returned for error in diagnosis, and six put under treatment. Having proved that prudence was so much more conspicuous in any house physician than courage, another house officer, who combined them both, was selected to be in almost constant attendance. The instructions were in these words: 'I want you to narcotize those women within an inch of their lives.' He did it, and saved every one of them. This gentleman is now known over the whole land as a learned and distinguished surgeon. I feel called upon to give his name in this connection, that he may be a witness to the facts I state, and for the admiration with which his nerve and prudence impressed me." Dr. Smith said that notwithstanding this assertion Professor Clark failed to give the name of the surgeon referred to, but as he himself was then a resident student at Bellevue Hospital, and had charge of the six cases mentioned, he assumed that he was the person meant, and would take this occasion to witness to the facts recorded.

Up to this time mortality from puerperal fever at Bellevue had been appalling. Of 21 cases reported by Dr. Vache, the resident physician in 1840, 19, or nearly 90 per cent., proved fatal. This death rate, he said, was not unusual at that period, and the treatment was so mixed that it was difficult to draw any conclusions as to the efficiency, or rather inefficiency, of any one remedy. Still it was noticeable that in 17 of the 21 cases purgatives were actively employed, and that in twelve of these calomel and turpentine, two approved antiseptic agents, were administered freely.

Up to the time when the opium treatment was adopted, as Professor Clark remarks, "peritonitis was a fearful word; a large proportion of those attacked by it died of it." Dr. Smith described in detail the treatment of the six cases placed under his charge by Professor Clark, who gave the most particular directions as to their care. At the outset each patient received 1 gr. of opium, or its equivalent, every hour for three doses. No effect being perceptible, the dose was increased to 2 grs. every hour, and continued for three doses. Failing with this dosage, the opium was increased to 3 grs. every hour. In short, he was especially charged not to be governed by the amount administered, but by the effects produced. In four cases the last mentioned dose had the desired effect, and the opium was continued in that quantity. In one of the remaining cases it had to be increased to 4 grs. every hour, and in the other to 12 grs. every hour. This case proved an anomaly in tolerance of opiates. During twelve days the patient took the equivalent of 1,950 grs. of opium, and yet at no time was she so narcotized that she could not be roused by a touch on her wrist.

The recovery of these six consecutive cases naturally produced a profound impression, and as the cases were typical of those ordinarily occurring in Bellevue, and as opiates were the sole remedies employed, it was apparent that a new era in the treatment of this affection had begun. From this time forward opium continued for twenty years to be the chief remedy used in peritonitis in this hospital, and with satisfactory results. Opium in peritonitis came into use generally in the city of New York, and Professor Clark stated that in private practice the drug had been, perhaps, more curative than in the hospital. Happily, in these latter days, said Dr. Smith, antisepticism had greatly diminished the frequency of this formidable disease, especially the puerperal form, and in the meantime the remedial measures had been greatly increased. One of the most important results of recent investigations was the differentiation of the types of peritonitis caused by various agencies; and as there were many types of this affection, having their causation in various conditions (some being of microbic and others of non-microbic origin), it was as yet by no means certain where the line was to be drawn between the medical and surgical treatment. Whatever might be the possibilities of the art of surgery in the treatment of peritonitis, the question, he thought, might be pertinently asked, Has any remedy or combination of remedies in the hands of the physician given results equal to or better than opium, in a series of cases similar to those recorded in this paper? And if it be true that by employing opium, as recommended by Professor Clark, more than 50 per cent. of cases of peritonitis, as met with in practice, can be saved, should not this method of treatment be at once adopted in all cases, and the resources of surgery be applied when the manifestations of the disease indicate the necessity of its additional remedial measures?

An interesting discussion followed the address, but it was greatly regretted that Dr. A. Palmer Dudley, who had been announced to read a paper on "Cathartics in the Treatment of Acute Peritonitis," failed to make his

appearance. In the course of the discussion Dr. H. L. Carroll remarked that it was noticeable that the advocacy of saline cathartics in peritonitis came, as a rule, from the abdominal surgeons, such as Lawson Tait, for instance; and Dr. T. H. Manley, in referring to the discussion on the management of peritonitis in the Surgical Section of the American Medical Association, at its Newport meeting, spoke of the extreme opposition with which everything in the way of palliative treatment was met on that occasion. For his own part, he said, his experience had led him to regard the opening of the peritoneal cavity as a more serious matter than many seemed to regard it, and it was his belief that in the next ten years there would be fewer laparotomies performed for the relief of inflammatory conditions than had been the case during the past ten years. So much interest was manifested in the subject that, at the suggestion of Dr. Gouley, it was determined to request that at the general meeting of the State Association in October next, a discussion on the treatment of peritonitis, to be opened by a paper from the President, Dr. Smith, should be arranged for.

P. B. P.

(To be concluded.)

"M.D., Indianapolis."

To the Editor:—During the past few weeks a case was brought up in the courts of this city which induced very free remarks relative to the requisite standing of a man in the States to possess the title M.D. S. E. L. Smith, of this town, was registered as a licentiate of the Society of Apothecaries, which gave him rights to practice. But said Smith assumed the title of "M.D., Indianapolis," and he was summoned into court, fined the maximum fee of \$100, with probably a quarter as much costs. Mr. Smith produced in court, during the trial, a document which gave him the title of "M.D., Indianapolis." It was said to have cost him \$30. The medical man who prosecuted the case said that such a title could only be one of those foreign or American titles which could be got for a dollar or two.

It might be well for the young men of the States to know something of this "*§30 M.D., Indianapolis*" mill. We especially recommend it to the proud men in the city of that name. Mr. Smith was prosecuted and fined because he *assumed* the title of Medical Doctor (M.D.). The titles M.D., etc., said the prosecutor, enable the public to distinguish between qualified and unqualified practitioners. The assumption of a title would mislead the public. We are sorry to hear of the "bogus diploma" again, and thought it died a natural death in Philadelphia. It chagrins a medical man of the States to listen to the English courts ridicule our medical titles as being worth "a dollar or two." But we cannot help thinking that we deserve it to some extent. A student in England studies five years of about eight months a year to get his title. I know scores of medical men in the States who got their title in two winters' study of five months each. Certainly we cannot expect very high regard from a European court toward titles so easily acquired. It is an unconsoling argument to say that the American student is such a genius that he can learn as

much in two winters as a European can in five years. There is but one way out of the matter, and that is to lengthen the course of study, and prosecute the bogus diploma man. Respectfully,

FRED BYRON ROBINSON.

Birmingham, Eng., May 26, 1891.

MISCELLANY.

AN INTERNATIONAL MEDICAL CONGRESS.—The managers of the National Prohibition Park, of Staten Island, invite representative medical men from all localities in the United States and Canada to meet in conference on the 15th and 16th of July next, in the great Auditorium Building of the Park. The chief object of the meeting is to be the comparison of views on the relationship of physiology and alcohol. Among the questions to be discussed will be the following:

What are the Hereditary Effects of Drunkenness?

Are there any Hereditary Effects that Follow Moderate Drinking?

To what Diseases are Inebriates More Especially Exposed?

Is Alcohol a Poison?

Is Alcohol in Any Sense a Food?

What are the Proper Uses of Alcohol as a Medicine?

Is there Danger of Producing the Drink Habit from the Prescribing of Alcoholic Medicines?

How Large a Percentage of Deaths May be Attributed, Directly or Indirectly, to the Use of Strong Drink?

Should Alcoholic Liquors ever be Used Except under the Direction of a Medical Adviser?

At this Conference, all views will be given an impartial hearing. No restraint will be placed upon the discussion save that of the time limit. Many well-known medical men have already signified their willingness to participate in such a conference. No harm, but much good, may come from this conference of views by leading physicians.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 30, 1891, to June 5, 1891.

Capt. Jefferson R. Kean, Asst. Surgeon, is granted leave of absence for one month, to take effect after the return of Major Robert H. White, Surgeon, to duty at Ft. Myer, Va. Par. 1, S. O. 123, A. G. O., May 29, 1891.

Major David L. Huntington, Surgeon, is granted leave of absence for three months, to take effect on or about June 15, 1891. With approval of the Secretary of War. Par. 2, S. O. 124, A. G. O., June 1, 1891.

Capt. Edward C. Carter, Asst. Surgeon, will proceed without delay to Ft. Canby, Washington, and report to the commanding officer for temporary duty, relieving Major John D. Hall, Surgeon, who will proceed to Ft. Sherman, for duty as Post Surgeon. Par. 1, S. O. 74, Dept. of the Columbia, May 22, 1891.

Capt. Henry P. Birmingham, Asst. Surgeon, extension of leave of absence on account of sickness granted in S. O. 108, May 12, 1891, from this office, is further extended to June 21, 1891, on surgeon's certificate of disability. By direction of the Secretary of War. Par. 6, S. O. 126, A. G. O., June 2, 1891.

Major John D. Hall, par. 1, S. O. 74, Dept. of the Columbia, May 22, 1891, transferring him from Ft. Canby Washington, to Ft. Sherman, Idaho, is confirmed. By direction of the Secretary of War. Par. 4, S. O. 126, A. G. O., June 3, 1891.

Capt. Van R. Hoff, Asst. Surgeon, is relieved from duty as a member of the board of medical officers to which he was assigned by par. 6, S. O. 78, April 7, 1891, from this office, and will, upon the completion of the duties assigned him by par. 6, S. O. 110, May 14, 1891, from this office, return to his proper station, Ft. Riley, Kan. By direction of the Secretary of War. Par. 11, S. O. 126, A. G. O., June 3, 1891.

Capt. Jefferson R. Kean, Asst. Surgeon, is assigned to temporary duty at Ft. Myer, Va., until the return of Major Robert H. White, Surgeon, to duty at that post. By direction of the Secretary of War. Par. 8, S. O. 122, A. G. O., May 28, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending June 6, 1891.

Surgeon C. V. Gravatt, detached from Naval Hospital, Yokohama, Japan, and ordered home.

Surgeon Franklin Rogers, detached from special duty, Norfolk, Va., and to Yokohama Hospital.

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ORIGINAL ARTICLES.

PRACTICAL EXPERIENCE IN THE TREATMENT OF ACCIDENTAL ABORTION.

*Read in the Section of Obstetrics and Diseases of Women, at the
Forty-second Annual Meeting of the American Medical Association,
held at Washington, D.C., May, 1891.*

BY BEDFORD BROWN, M.D.,
OF ALEXANDRIA, VA.

EX-PRESIDENT OF THE MEDICAL SOCIETY OF VIRGINIA; MEMBER OF
THE MEDICAL EXAMINING BOARD OF VIRGINIA, MEMBER OF
THE SOUTHERN SURGICAL AND GYNECOLOGICAL
ASSOCIATION.

The facts and statements presented in this paper are based exclusively on the personal observation of some two hundred or more cases of accidental abortion which occurred at various times during the past forty-two years of my professional life. And I have endeavored to make it as practical in character as possible. It has been my custom of late years, when first called to attend a case of threatened abortion, accompanied with uterine pain and indications of hæmorrhage, in the beginning to give a hypodermic of $\frac{1}{4}$ gr. of morphia, $\frac{1}{5}$ of atropia, and, if there is much depression from hæmorrhage, $\frac{1}{16}$ gr. of strychnia, and 20 minims of the fluid ext. of ergot. This quantity of ergot is just enough to constrict the arterioles without stimulating contraction of the uterine vessels. In two or three hours this practice may be repeated, if found necessary, and will aid materially in arresting the progress of abortion.

The fact may be recalled here that the causes of this accident are of a varied and complex nature, and of course require, to a certain extent, a modification in our preventive treatment suitable to the peculiar nature of the existing cause. Take a given number of cases of abortion, and we will find in one that it is simply and purely of the nature of a neurosis, having its cause in unusual mental or nervous excitement acting on the contractile fibres of the uterus. At other times it is eminently reflex in its character, the current of nervous action being reflected from some other organ on the cord, and thence on the uterus; while in other cases still it is due to temporary increase of blood pressure, the result of overexertion, sudden injury, high fever. When pure-

ly of a neurotic origin, the uterine contractions begin previous to signs of hæmorrhage. But when from increase of blood pressure, the hæmorrhagic symptoms usher in the case. Then again, it may be due to a variety of blood poisons acting on the nutrition and growth of the placenta and cord, and also on the fœtus, as the infection of syphilis, of typhoid fever and scarlatina. My next procedure, as a preventive measure, is to cause the vagina to be thoroughly douched with water at a temperature of 110° , containing 1 gr. of permanganate of potash to the oz. And then, if hæmorrhage be present, to order a vaginal douche of a pint of hot water containing 1 or $1\frac{1}{2}$ oz. of pulverized alum to the pint of water. This very active astringent causes prompt contraction of the os, and forms a firm clot, which fills the cervix and arrests bleeding without the necessity of a tampon, which is objectionable at this stage. The viburnum and kindred remedies I use, but have found uncertain. In my personal experience of all methods for the prevention of abortion, rest, absolute and continuous, is the most valuable. Rest of mind and body in the recumbent position, without ever assuming the erect or semi-erect attitude for a single moment, for any purpose whatever, has accomplished more, in my hands, than any other single method. With absolute rest, and one of the bromides in 10 or 20 gr. doses three times daily, as the bromide of lithia, and if nervous or circulatory excitement are present, 2 drops of the tincture of aconite root, many imminent cases may be averted. The bromide of lithia and aconite give a quietude of mind and body that predisposes the patient to a state of composure and comfort, and not only renders her less amenable to existing influences, but subdues undue arterial pressure, and nervous erethism, and enables her to bear confinement with more philosophy and less irritation. While copious hæmorrhage in the early stages of abortion is exceedingly dangerous to the life of the fœtus, I have yet to witness a fatal case to the mother, and I have seen repeatedly instances where the patient was blanched, cold, and for a time pulseless. Yet, under proper restoratives, they would react. But I have seen fatal cases, the result of septicaemia from retention of placenta, before the introduction of our

admirable modern antiseptic methods. For the arrest of the genuine neurotic contractions of the uterus without hæmorrhage, the chloral enema, composed of 5ss and 20 grs. of bromide of potash, three times a day, exerts the most potent effect on the lower spinal cord and the reflex pelvic nerves, of any other remedies in my knowledge.

There comes a period in the progress of abortion when it becomes dangerous longer to tamper with preventives, and when it even becomes desirable to complete that process as speedily as possible. The use and application of the tampon at this stage are questions of infinite importance and delicacy. It will save the mother, but as surely condemn the fœtus to death. Its primary action is to arrest hæmorrhage, and its secondary is to put the whole process of abortion through its various stages to completion, as a rule, promptly and speedily. Otherwise, in this stage, it can do no harm, and is a power for good. But when applied in retained placenta with hæmorrhage, it is not unattended with danger. It will seal up a decomposing placenta in a cavity at a temperature of 100°, and conduce in every way to the generation of active septic poison, which may be serious, or it may be mild, but nevertheless it will generally be developed. I have never applied a tampon for hæmorrhage in retained placenta for twenty-four hours, that it was not followed by more or less septic fever, and occasionally pelvic peritonitis or salpingitis. The type of fever may be exceedingly mild and the local inflammation exceedingly limited, the area not covering more than a square inch. But there is usually a rise of temperature and acceleration of pulse. But occasionally they are of a more serious character. In my experience, this mild form of septic fever has so often followed the sealing up of an offensive, putrid placenta, that I always anticipate it.

In the first stage of abortion, previous to the expulsion of the fœtus, for the tampon to prove efficient, the vagina should be thoroughly washed out with a warm solution of permanganate of potash 2 grs. to the oz. The patient is then laid across the bed near the edge, in the lithotomy position, and a large bivalve speculum introduced, through which balls of cotton or iodoform gauze as large as walnuts, with small cords tied around their middle, which are permitted to protrude from the vagina. These pellets are pressed up with dressing forceps against and around the os uteri in the roof of the vagina firmly, until that canal is firmly packed with the pledgets, and then a soft catheter is inserted into the urethra. The attending physician may now leave his patient, and rest assured that there will be no further hæmorrhage until their removal, and that the patient will be preserved in an aseptic state for twelve hours.

A tampon well timed and executed is a blessing to both physician and patient. But one ill-timed,

badly prepared and inefficiently applied, is a curse to all concerned. In my judgment, the tampon cannot be properly applied without the use of the speculum, and in my experience, the best form for this purpose is the large bivalve. With this instrument no assistant is needed, as with that of Simons. I have repeatedly been called in the dead hours of night to cases of abortion with alarming hæmorrhage, and after placing the patient in position, inserted my bivalve, and with my iodoform gauze pledgets packed the roof of the vagina around and over the os, then filled up the vagina firmly with pledgets of absorbent cotton, gave a hypodermic of morphia, atropia and strychnia, and returned to my bed, with perfect confidence that in the morning I would find my patient in a satisfactory state, and in all probability a fœtus and secundines, partially or wholly expelled, in the vagina. But in the event that the os uteri is contracted, the fœtus in a dead condition, and is retained and gives rise to exhausting hæmorrhages, what is the proper course of procedure in this condition? Ergot alone, in this state of affairs, only causes increased contractions of the os, without facilitating the expulsion. The method which I have adopted of late years, in cases of this kind, is to dilate the os and cervical canal with an antiseptic cotton wool or iodoform gauze tampon, wrapped in a conical form around a metal instrument in the form of a conical screw, and inserted by a rotary motion until the os is dilated to the extent of 1 inch or 1½ inch in diameter, and permitted to remain while 5ij or more of Squibbs' fl. ext. of ergot is injected by enema into the rectum. The ergot acts very powerfully on the muscular fibres of the body of the uterus, while the fibres of the cervix and os remain in an inert condition because of the presence of the dilator, and the fœtus and secundines are usually promptly and easily expelled through the expanded os. The ergot, given in this way, with 5 grs. of quinine internally, acts on the cord and muscular fibres of the uterus with great promptness and force. The rotary dilators which I use were prepared, at my suggestion, some ten years ago, by the Messrs. Ziemssen, and when associated either with carbolated or iodoform vaseline, the absorbent cotton or gauze is wrapped around in the form of a cone, and gradually inserted by turning the instrument to the right. When this is completed, the instrument is simply turned to the left, and the threads of the screw gradually liberate it and permit the tampon to remain. The advantages of this method are that the body of the uterus is, as a rule, except in adherent placenta, enabled to expel the contents entire.

In a certain proportion of cases of abortion, after expulsion of the fœtus, the placenta, either detached or adherent, is retained *in utero*. I think that the profession will bear me out in the asser-

tion that the retained placenta in abortion gives rise to more evil consequences to the patient, and more anxiety and annoyance to the attendant, than any other feature in its management. In truth, the pathology of the retained placenta is the pivotal point, largely, on which the favorable or unfavorable prognosis will depend. We can, in a certain proportion of cases, prevent the occurrence of abortion. If not, we can, as a rule, promptly expel the fœtus. But when the secundines are retained or adherent, we have a more complex case, that may entail a long line of evils in the form of hæmorrhages, septicæmia, inflammation, as pelvic peritonitis, phlebitis, salpingitis and metritis. The ideal method, in my judgment, in the delivery of the retained secundines, is to discard all instruments, as hooks, forceps and curettes, and to rely upon the hand and its prehensile extremities, and an occasional dilator. To attain proficiency and success with the fingers in these cases, certain preliminary and coöperative arrangements are necessary. In the first place, the patient must be placed on the back across the bed, with the pelvis on the edge, and the limbs drawn up as in the position for turning. An intelligent assistant must press the womb well down in the pelvic cavity and keep it there, and the os can usually be brought within $1\frac{1}{2}$ inch of the vulva. If the os is rigid and contracted, nothing can be accomplished without the use of an anæsthetic, and the greater my experience increases, the more I am convinced that these cases justify the employment of anesthesia, and the more I am convinced, also, of the importance of the prompt and early removal of the retained secundines. With all mental and physical resistance at an end, the soft and dilatable vagina and os uteri can be invaded with the fingers, and the hand if necessary, with impunity, and the operation completed without difficulty. This operation should be preceded by the permanganate douche, and the hands of the attendant washed in a sublimate solution. When the secundines have been successfully removed, there is an end of the trouble. As previously stated, the tampon retained, putrescent placenta is dangerous, though it will arrest hæmorrhage. I have in times past seen a sealed up placenta, from the use of the tampon, keep up hæmorrhage and septic fever for weeks, when all of this could have been avoided by its prompt removal. Then I am satisfied that adherent placenta is a frequent occurrence in the early months of pregnancy, which cannot well be removed by instruments. In certain cases, particularly after the second month, the fingers cannot well reach the cavity of the uterus without the entire hand being introduced into the vagina. When necessary, I never hesitate to do this, and find that it can be accomplished with perfect ease and impunity to the patient. Then we have entire command of the situation, and the retained

placenta can be easily removed. Or, if it should be adherent, it can be peeled off and raked out without difficulty. The sensitive and intelligent fingers are the best, the safest, the most efficient curette in our profession. And I am convinced that the entire process of curetting the uterus with the fingers, while the patient is under chloroform, is far less dangerous than the use of instruments. Up to the fourth month, with the uterus pressed low down into the pelvic cavity, the hand in the vagina and the fingers *in utero*, the secundines can be removed without much difficulty. But subsequent to this stage—that is, after the fourth month, this method of procedure is not practicable. Then it becomes a very grave question for consideration, whether the entire hand can be introduced with perfect safety and ease into the cavity of the uterus for the removal of the retained or adherent placenta. This is an interesting and important question. On a number of occasions I have introduced the hand, disinfected, into the uterus at the fourth month or after, for the removal of retained or adherent placenta, with the patient under chloroform, with perfect ease and safety, and successfully, without any ill consequences. I have never introduced it at an earlier period than this, though it is possible that it could be accomplished in multiparæ at an earlier period.

For the purpose of more clearly illustrating the statements made in relation to the treatment of retained placenta, I will cite the following cases:

Case 1.—Mrs. T., a young married woman, aborted with her first child at the fourth month. The dead fœtus was expelled, but the secundines were retained, and there was no hæmorrhage following the expulsion. The umbilical cord was found in an atrophied condition. Various methods were resorted to for the expulsion of the placenta, but without effect. The patient was then placed under chloroform, laid across the bed in the position for turning, with limbs drawn up, and my assistant directed to press the uterus down forcibly in the pelvis, and my right hand, after disinfection with sublimate, introduced into the vagina and then into the relaxed uterus with perfect ease. I was surprised to ascertain with what ease and rapidity this operation could be performed at the fourth month, and how thoroughly relaxed were both the vagina and uterus. The placenta was found to be entirely adherent, which accounted for the absence of hæmorrhage. It was cautiously peeled off and raked out of the cavity with the hand. The patient suffered for ten days with slight septic fever, which yielded to antiseptic treatment. In twelve months from this time this woman became pregnant again, and aborted at four and one-half months. The dead fœtus, with an atrophied cord, was expelled, and the secundines retained as in the previous case. I had no hesitation now in resorting promptly to

the same treatment as in the first instance. The placenta was again found adherent and effectually removed. The patient also had a similar attack of septic fever, but of less duration. As an important part of the history of this case, it should be stated here that this woman, soon after marriage, contracted syphilis from her husband, for which I treated her in the primary stage before pregnancy. The infection had undoubtedly lingered in the system, and was the cause of adherent placenta, atrophy of the cord and abortion. Subsequently I treated this patient for several months, until she became pregnant a third time, by means of iodide of potassium and bichloride of mercury. This pregnancy went to the full term, when she was delivered of a healthy child. There had been no signs of quickening.

Case 2.—Mrs. M., a young married woman, contracted syphilis from her husband soon after marriage. She was treated for this, it was supposed successfully. She became pregnant in twelve months, and aborted at the end of the fourth month. The fetus was still-born, and the placenta was retained. After resorting to the usual methods of removing the afterbirth, I was unsuccessful, and then placed the patient under chloroform, directed the nurse to press the womb down into the cavity of the pelvis, and, the woman being in the proper position across the bed, the hand, after disinfection, was with perfect facility and impunity introduced into the uterus, and the placenta, which was adherent, removed without difficulty. The practice has been inculcated by many high authorities that the secundines can be left in the uterus before the second month, there to be decomposed and escape in a disintegrated state with perfect safety. I regard this as erroneous in theory and practice. And while it is true that, in a certain proportion of cases, nature seems to resist infection, there are others in which the results are deplorable. I have had a small adherent placenta of six weeks old give me infinite trouble for many weeks and months, from hæmorrhage, irritation, septic infection and sub-involution. In my experience, the earlier the retained placenta is removed the better. If, in these cases, I am not certain that every shred of secundines is removed, and the slightest trouble recurs, I swab the cavity of the uterus out every day or two with carbolic acid and tincture of iodine, and wash the vagina out with the permanganate solution. To indicate what disastrous results may follow the neglect of this rule, I will cite the following case:

Mrs. E., a married woman, had a miscarriage at the sixth week in her fourth pregnancy. She had retention of the afterbirth and but little hæmorrhage. When seen some two days subsequently she had had a chill, followed by fever. There was pain and tenderness in the right inguinal region, and very soon extensive phlebitis, then ex-

tensive œdema of the limb, then erysipelas of the thigh, and suspension of circulation in the foot with symptoms of incipient gangrene, followed by death from septicæmia—all originating from retention of a small placenta only six weeks old. In certain cases I have pursued a still different course in the delivery of the placenta. In the past six years two very remarkable cases of retained placenta, accompanied with extensive and dangerous concealed hæmorrhage, have come under my observation and care, one of which was reported at the time in the *Virginia Medical Monthly*, the history of which I will present on this occasion:

Case 3.—Mrs. S., a married woman, became pregnant with her second child, and while in a country neighborhood, aborted at the third month. The attendant supposed the entire contents had been expelled, and for a period of two weeks subsequently there was no trouble. Then the abdomen began to enlarge rather rapidly, while there was no discharge whatever from the vagina, which enlargement was accompanied with pain and soreness of the abdominal parietes. Just at this time the health and strength of the woman began to decline in a marked manner. She came to our city, and I was called hurriedly to see her. I found a woman completely exsanguined, cold and almost pulseless, and suffering great abdominal pain. There were all the general indications of excessive loss of blood, but no discharge from the vagina or intestines. The uterus was about the size of that of a woman at her sixth month of pregnancy. After learning the history of her previous condition, I was convinced in my own mind that I had a case of dangerous concealed hæmorrhage to deal with, and that it required prompt and efficient measures to save my patient. In the first place, a hypodermic of $\frac{1}{4}$ gr. of morphia, $\frac{1}{5}$ gr. of atropia and strychnia was administered. Then the os uteri, which was closely contracted, was dilated with a conical tampon of iodoform gauze well coated with carbolated vaseline, inserted on the rotary dilator, and permitted to remain while 5ij of fluid extract of ergot was administered by enema per rectum, and the vagina washed out with permanganate solution. In thirty minutes active uterine contractions began, and in an hour from commencement of treatment there was expelled more than a half gallon of tough, whitish-colored, fibrinous coagulations, and a large quantity of coagulated blood, when the uterus was rapidly reduced to its small dimensions. In this mass of fibrinous concretions and coagula a three months old placenta and cord were found embedded, in a perfect state of preservation. This patient gradually regained her usual health under treatment.

A paper on the treatment of abortion would hardly be complete without allusion to the management of the collapse so often arising from

hæmorrhage in the progress of that affection. The onset of collapse, in its suddenness and degree, depends largely on the rapidity with which blood is withdrawn from the circulation, and the inability of the heart and arteries to accommodate their calibre to the sudden diminution of the circulatory volume. To meet this new condition of affairs we have two leading objects before us: one is to maintain and even increase the contractility of the heart and arteries, so as to establish this accommodation which is lost, and thereby prevent that paresis of the vaso motor system which is present in all cases of fatal collapse, but also to increase the circulating volume by adding new serum in sufficient quantity to make up, in part, for the deficiency. On a moment's reflection in the treatment of collapse, we will observe that most of our general remedies are such as are addressed to the vaso-motor system, and partake of the nature of stimulants of that system., Morphia, atropia, strychnia internally or hypodermically, and nitro-glycerine internally, constitute some of our most potent agents for sustaining vaso motor action, and for the prevention of paresis of the heart. And these agents do meet the emergencies of the case better than any other in our profession. A heart and artery whose contractility cannot be excited by agents are certainly dead to all other stimulants, including alcohol. But to coöperate fully with the action of these vaso motor stimulants, it is of the utmost importance to increase, if possible, the circulating volume of blood by adding to its aqueous constituents. This I have been enabled to accomplish without much difficulty. My custom now, in the treatment of all forms of collapse in abortion, in cholera morbus, post-partum or hæmorrhage from any cause, is to have injected into the rectum a pint of beef-tea, or if not convenient, a similar quantity of warm water. Then, by means of a hypodermic syringe containing an ounce, hot water at 105° or 110° is injected under the skin twelve or fifteen times, which is equal to another pint. A quart of warm fluid thus suddenly added to the general circulation, exerts an astonishing effect in the process of restoration. To this warm water I add a small quantity of chloride of sodium and bicarbonate of soda. In certain cases of collapse where these methods have been put into execution, it has been exceedingly interesting, during the progress of reaction, to observe the increased arterial pressure and of cardiac action, the return of warmth to the surface, the increased power of nervous action, the return of consciousness and interest in life and surrounding objects, the disappearance of pallor and emaciation, and that contraction of the features in extreme cases of this kind. In the treatment of collapse from hæmorrhage, it is needless to continue in our efforts by powerful stimulation to lash an exhausted heart to increased action,

when there is comparatively nothing for it to act upon. But if we will but give this jaded heart something substantial to act upon, we will see how promptly it will respond to stimulants.

In calculating the dangers and advantages of the respective methods of treating retained placenta in abortion, namely: the expectant, by which nature is left unaided; the use of instruments, or its removal by manipulation with the fingers, an experience covering some three hundred cases, during a professional life of forty-two years, sustains me in the opinion that the latter is the safest, easiest, and the most effectual of all methods. And I have found that anæsthesia adds greatly to the facility of these operations, and in truth is a necessity to success and very greatly increases the security of the patient's life and health. In a majority of cases of retained placenta, anæsthesia is not only necessary to complete the operation of removal, but the neglect of its influence has often led to imperfect and incomplete operations that have practically defeated the object.

With thorough anæsthesia we have absolute command of the situation, without in any way adding to its dangers. Without the influence of anæsthesia there is danger of lacerating the rigid os uteri. With it the os and cervix are thoroughly relaxed, and in no danger of laceration. It is equally true of the perineum. A perineum and vagina that will yield only to two fingers, under anæsthesia affords no resistance to the entire hand. And a womb contracted as hard as a ball, fully under chloroform becomes a soft, relaxed, unresisting bag to the hand when inserted.

It is certainly our duty to prevent abortion if possible. If not possible, then it is equally our duty to bring it to a conclusion in the speediest and safest manner possible. Hypodermics of morphia or opiates internally have not, in my experience, accomplished much to arrest the uterine pains of abortion, nor has ergot done much to control hæmorrhage. Thirty grs. of chloral by enema and 20 grs. of bromide of lithia, with a teaspoonful of fl. ext. of viburnum prunifolium every two or three hours, will allay this spasmodic action better than opiates. This, in connection with absolute rest of mind and body in the recumbent position, without the patient's ever assuming the erect or semi-erect position for a moment, constitute the most effectual preventives in my knowledge of the act of abortion. In alluding to the positive advantages of rest of mind and body, and quietude of the nervous system, in prevention of abortion, I recall the history of a case which occurred some seventeen years ago. This young woman, in the third month of her second pregnancy, had frequent and severe uterine pains and repeated hæmorrhages for some four weeks. She during this time had numerous enemata of 30 grs. of chloral

after failure of opium, and 20 grs. of bromide of lithia every four or five hours, with absolute rest of mind and body in the recumbent position. The fœtus was not only retained until the full term, but was healthy and vigorous at birth, and is now a healthy young man.

CAN THE GYNECOLOGIST AID THE ALIENIST IN INSTITUTIONS FOR THE INSANE?

Read in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May 1891.

BY I. S. STONE, M.D.,
OF WASHINGTON, D. C.

This question should receive an affirmative answer without debate. There are, however, many who refuse to be convinced of the necessity for special treatment of the various ailments to which the insane are subject, claiming as they generally do, that the local or peripheral cause, or factor, must yield if at all, to such treatment as may influence directly the central lesion. The question is asked by the gynecologist briefly thus: Are there not in every community of from one hundred to five hundred, many cases of uterine or pelvic disease? Is it not true that in a community of five hundred sick women, sick mentally often because of bodily infirmity, that the statement should be doubly true? This statement is made *ex cathedra*. But taking the words of various alienists, besides the proof offered by the gynecologists, there is a place for gynecology right here. We wish to note in the beginning of this paper, that, as many are insane from any cause influencing and reducing the standard of health, the appropriate treatment of the special organ involved may have as good proportionate result, in the insane as in the sane. It is not necessary to question the ability of a specialist to detect disease in his department, however much difference there may be as to treatment. Taking these suggestions as a basis for investigating the question at issue, let us see what the alienists have to say first. Bucknill and Luke recognize ovarian insanity, and say such form is commonly associated with ovarian and sometimes uterine diseases. Dr. Bucknill says: "There can be no doubt that uterine disorders constitute one of the most frequent remote causes of insanity with which we are acquainted. If, therefore, the physician can ascertain that his patient has suffered or is suffering from gastric, hepatic, intestinal or uterine disease, he will have discovered a well known and frequent cause, the existence of which must be allowed to exercise its influence in the diagnosis." Mandsley says: I saw melancholia of two years disappear after cure of prolapsus uteri, also another cure after relief of inversio uteri.

Griesenger reports two cures from hysterical insanity by local treatment, after failure of all other measures. These cases of inversion and prolapsus uteri I believe to produce insanity by the consequent effect upon the ovaries.

Dr. Mayer of Berlin reports numerous illustrative cases.¹

Esquirol says: "Menstrual anomalies make up a sixth part of all the causes of insanity. In 6000 cases, 18.97 per cent. without and 81.03 per cent. with menstrual irregularities." Schroder Vanderkolk reports a case of melancholia from prolapsus uteri, promptly cured by replacement. Boyer relates a case of a woman insane during her first pregnancy. Ten years later, her mental alienation having returned it was thought she was again pregnant. Examination revealed uterine polypus, the removal of which cured her at once. Schlager says "in 67 of 100 cases of irregular menstruation in insane women, there were present the various minor disturbances so often observed. In the remaining 33 there were undoubtedly traces of actual disease. Insane persons who were quiet and gentle during the interval, fell into maniacal raving during the menstrual flow, not infrequently of an erotic character." H. R. Storer² says of "probable causes of derangement in New York State Insane Asylum Report for 1852, in 366 cases of insanity occurring in both sexes, in 87 or nearly one-fourth the whole number, are reported to have arisen from causes directly connected with the reproductive system. Same report for 1853 shows 117 cases out of 424 cases, or more than one-fourth the whole number." Of the many gynecologists who are on record as favoring the affirmative of this question, in the front rank stands Dr. Robt. Barnes, of London, whose admirable study of the "Correlation of the Sexual Functions and Menstrual Disorders of Women,"³ should be read by every alienist and gynecologist. His exhaustive paper deserves far more than mention in this brief paper, as arrayed in favor of giving every insane woman as much right to relief from disease of the ovaries and uterus as her sane sister has.

Dr. Thos. Savage, in his address of 1890, delivered in the Section of Obstetrics branch of the British Medical Association, speaking of "Gynecology in its relation to Insanity," gives us no uncertain sound as to his opinion. "There is one more point I should like to refer to, and that is the necessity or otherwise that exists for most and certainly all large lunatic asylums, to have a gynecologist as a member of their medical staff. Among the causes of insanity in women, heredity, intemperance and the vicissitudes of female life are said to be the most frequent, and it has long occurred to me, as I know it has to

¹ Verhandlungen der Gesellschaft. für Geburtsh. 1889.

² Insanity in Women.

³ Brit. Gyn. Jour., Nov. 1890.

others, that in regard to the latter element as a cause, much good might result, if every case in which there was the least doubt were thoroughly overhauled and investigated by an experienced gynecologist. Every one knows that occasionally, although rarely, a case of insanity has been cured by the application of a properly adjusted pessary to a displaced uterus. Then in regard to the influence upon the mental state which is produced by the presence or absence of the ovaries, little is known. Observation on this point has not been sufficiently extended or pursued. In 500 double oophorectomies four cases of insanity; three cured; one suicide. I have never seen insanity follow removal of one ovary or any other pelvic operation. The insanity of the climacteric period, and of the puerperal period, may or may not be dependent upon some occult influence seated in the ovaries, the exact nature of which, if or where it exists, has yet to be investigated." Dr. Goodell's work in rescuing women from insanity is well known. He asserts that oophorectomy may be relied upon generally to cure insanity limited to the menstrual period, and urges early operation in ovarian insanity.⁴

Dr. Betty has cured numerous cases of insanity by his operation. Dr. Reed, our honored chairman, has reported six cases of insanity cured by such operations as oophorectomy, ovariectomy and uterine dilation. Dr. Manton⁵ reports a case of ovarian tumor with insanity greatly relieved by operation. Dr. C. N. Hay, of New Jersey (an alienist), reports a case of insanity cured by removal of an ovarian abscess.⁶ Dr. Kitto, of Racine, Wis., a case of long standing (13 years) insanity cured by salpingo-oophorectomy. The patient had pyosalpinx. Time too recent for definite result. Dr. J. B. Cummins, of Arkansas, another case with suicidal and homicidal tendency cured in seven months by oophorectomy. Immediate relief; ovaries were enlarged; adherent; subinvolution of uterus.⁷ Dr. Cottrell reports a case of menstrual insanity, melancholia, of 18 years standing, cured by removal of small but painful ovaries.⁸

Dr. O. G. Pfaff reports a case of insanity cured by removal of double pyosalpinx. Patient returned to her home in a month and continued to improve until cured.⁹

The writer has cognizance of three operations done indirectly for the mental condition. One ovariectomy a cure, one oophorectomy a cure, and one in which oophorectomy was followed by suicide in about six months, owing to persistent insomnia. Many additional cases may be mentioned, but these should suffice to prove that gyn-

ecologists do frequently encounter and relieve this dread disease among women. We claim that very many more pelvic causes of insanity exist than are found, owing to the difficulty of making a diagnosis in these cases. No fact is better understood than that any disease of the abdominal organs may favor insanity even by interference with nutrition alone. How much more does it seem probable that disease of the organs peculiar to women, which so much more than the corresponding organs in men, have to do with her physical and mental condition, may cause psychical derangement. It is unfortunate that in the past some misdirected efforts to secure gynecological supervision and treatment in asylums caused a general indisposition on the part of alienists to accord the gynecologist a place in cooperation with them. There was said to have been too keen a desire to try oophorectomy as a panacea for all kinds of insanity in women. There was also an effort made to introduce female physicians upon this tide of so-called necessity, and thus were blended disadvantageously questions of public policy, or expediency, with what should have been scientific inquiry. Dr. Spitzka's contemptuous allusion to gynecologists shows the animus of his disbelief in any cause for insanity outside the cranium. Although he readily (elsewhere) admits that insanity is intensified by pelvic disorders. He refers to one case of ill-advised oophorectomy by way of enforcing his criticism, and in general denies the claims urged by the gynecologist. Dr. Reed has pointedly suggested some improvement in asylum management. Especial reference is made to inadequacy of the medical staff in view of amount of work required. To this I add my endorsement, and respectfully suggest that the number of physicians is generally much less in asylums than in regular hospitals. The reverse should be the rule. There is also much difficulty in ascertaining how much care is taken when patients are admitted, to examine the pelvic organs for disease. I learn that in some asylums this is carefully done, as for instance in Harrisburg and Norristown, Pa., hospitals. Is it asking too much that in any doubtful case a specialist be called to assist in the investigation? Some asylum reports show excellent work done in the pathological department.¹⁰

But we do feel some regret that a full and complete history of the post-mortem appearances of all the organs of the body is not forthcoming from the pathological department of our various asylums, in order that comparisons may be made with a view to distinguish the effect of insanity upon the various organs, as well as to observe

⁴ Medical News, May 17, 1890.

⁵ American Journal Obstetrics, Vol. II, 1889.

⁶ Medical Record, New York, November 15, 1890.

⁷ Memphis Medical Science.

⁸ Maryland Medical Journal, from Lancet, February 28, 1891.

St. Louis Weekly Medical Record, October 11, 1890.

¹⁰ This is especially true of one asylum, St. Elizabeth, Washington, D. C., although inquiry was made with special reference to epileptic and dementia cases.

the possible relation of their disease to the mental condition. This paper would not be complete without a remark about the propriety of urging examinations and especially surgical procedures upon the insane. Sir Spencer Wells was once consulted as to legality of operating upon a lunatic, and he referred the question to Sir William Harcourt, the Home Secretary, who replied, "If she is incapable of judging for herself treat her as an infant." In the case in question the operation was done and the patient recovered her reason, and she was afterwards married.

The following circular letter was sent to twenty of our representative asylums, generally addressed to the superintendent or physician in charge.

Dear Doctor: Will you kindly answer the following questions, to be embodied in a paper which I am preparing for the approaching meeting of the American Medical Association.

1st. Have you a gynecologist on your staff of physicians or connected with your institution?

2d. Do you have any apparent need for such treatment, and do you find any cases of insanity due to disease of the pelvic organs of women?

An immediate answer will be highly appreciated.

Boston Lunatic Hospital.—"We have no gynecologist."

Very little need for gynecological treatment. Very few cases of insanity due to disease of pelvic disease in women."

Worcester Lunatic Hospital.—"In an experience of nearly twenty years I have failed to see any case of insanity due to disease of pelvic organs of women. The female member of the staff (appointed under the law of Moss), does not find any notable amount of gynecological work to do."

The female attendant writes thus: "As I have held the position of gynecologist in this institution for some years, the superintendent has asked me to reply to your questions, which I am pleased to do, as follows: There is a resident gynecologist on the staff of the hospital. There is undoubtedly need for such treatment, and while I am not convinced that uterine disease is often the sole cause of insanity, yet I think it is frequently one of the factors, the remedying of which assists greatly in the recovery of the patient."

Danvers Lunatic Hospital.—"Your letter received. . . . I wish to add that the practice in Massachusetts of having a woman doctor in each Insane hospital meets my hearty approval."

The gynecologist of this institution at the request of the superintendent, writes thus: "Although examination is made of all new cases, few occasions for surgical work.

There are often cases which could be relieved of discomfort by operative treatment, but it is not attempted, owing to expense and subsequent care, which would be difficult in pauper class.

It is not evident that many cases of mental disturbance are due to uterine lesions. That the functional activity of the uterine system has a close inter-relation with psycho-pathological states is patent to the least experienced psychiatrist. That a wise, legitimate activity, in gynecology, (not a wholesale use of invalids to swell the records of the tyros) is called for, the constant questioning of the last decade from every quarter renders apparent. There also seems needed full sustained authority, and complete provision, in order to overcome the well-known difficulties due to the mental status of the patients. This implies expense and attention, which the hospitals of to-day are not prepared to give."

Westborough Insane Hospital, Mass.—"We have a female physician on staff as required by law of Massachusetts. She has every day some cases under treatment, out of nearly three hundred women. There are always some that are benefited by her care. Treatment is useful and comforting, rather than curative. Cases of insanity due to pelvic disease rare."

Taunton Lunatic Hospital.—"Have a gynecologist, sometimes find cases of insanity in women due to disease of the pelvic organs but they are quite infrequent."

McLean Asylum, Mass.—"One member of staff has had gynecological training. No greater need for gynecological work in insane than in same number of sane women. A specialist in this department called when required."

Warren, Penn., State Hospital for the Insane.—"No gynecologist; not cases enough to justify such an appointment. Agrees with Dr. Goodell that the large majority of uterine troubles are nervous, requiring little or no operative interference. Very few cases of insanity arise from uterine troubles simply."

Pennsylvania Hospital for Insane, Harrisburg.—"We have two female physicians who do considerable gynecological work."

The physician in charge of female department writes thus: "I think there are some cases of insanity which are apparently referable to pelvic disease, and many more complicated and intensified by such troubles. Many of our patients are drawn from a class of people who from ignorance or neglect, have often not had proper attention during or after confinement, and suffer from the ills consequent upon neglect, privation, or overwork. Some of our puerperal cases furnish the best illustration of the need of gynecological treatment and the benefit resulting from it. We always have a large number of patients here under treatment and find that they are always more or less improved by relief from suffering of that

NOTE.—I cannot believe Dr. Goodell is generally thus misunderstood. Would it not be better to say so-called "uterine troubles." The "uterine form of uterine disease" are generally well understood by gynecologists, who perhaps all agree with Dr. Goodell, who has written so much on this interesting and important subject.

sort. From my experience I am decidedly of the opinion that there is room, yes, necessity for the work of the gynecologist among insane women.

... We know the frequency of pelvic disorders among more fortunate people, and it follows that among this class such diseases will be found in greater proportion than in the general population."

Pennsylvania Hospital for Insane, Philadelphia:—"We have a female consulting gynecologist. Non-resident. Examinations for suspected pregnancy or pelvic disease. Insanity due to disease of pelvic organs extremely rare. I will not say they never occur, as some are of the opinion they do occur. Examinations have a negative value."

Philadelphia Hospital for Insane:—Blockley. "No gynecologist on staff. Cases now and then admitted who need treatment of their pelvic organs, but such cases are rare. Have seen no cases of insanity due to disease of pelvic organs."

Friends Asylum, Frankford, Pa.:—"Have a non-resident gynecologist. No more need of gynecological treatment than in any hospital where same number of women are congregated. Never saw a case of insanity in which I could say it was entirely due to diseased condition of the pelvic organs. Such disease of pelvic organs often complicated with nervous disorders which have ultimate relation with mental condition and may be improved by treatment."

State Hospital, Norristown, Pa.:—Physician in charge of female department says: "I do not know of any hospital where there is a gynecologist proper. Do not see why the regular attendants should not do such work. My impression is that but little is done. Hospitals as a rule overcrowded; often the number of physicians too small, and so far as I know anything about it, physical examinations even in some reputable hospitals are not made at all. The questions implied in the title of your paper must be answered affirmatively, irrespective of what has or has not been done. It is a question of what ought to be done, and I think we shall never know much about insanity until underlying bodily conditions are more carefully studied. Here every patient is examined upon admission; not many cases due entirely to disease of generative organs. An occasional case is positively benefited by such treatment. In a very large number of cases the local trouble is one of many depressing causes and we believe that appropriate treatment aids often."

Pennsylvania Hospital for the Insane, Danville:—"We have no gynecologist. There is same need for a gynecologist as for an oculist, or surgeon, and no more. Cases do occur where a gynecologist on staff would be of service. Cases occur showing marked sexual derangement as far as their history and conduct indicate, nothing found on examination, and they recover

under other than gynecological treatment. I believe gynecological treatment would be of disadvantage in some cases. Disease of pelvic organs, as of any other organs of body, such as heart, etc., may be a factor in the causation of insanity, but uterine disease is not likely more frequently a cause than disease of other organs."

Utica, New York, State Hospital:—"There is no gynecologist on the staff. Thus far no need for one. Very few cases of insanity directly traceable to disease of pelvic organs of women."

Binghamton, New York State, Hospital:—"We have a female physician who looks after gynecological cases. We doubt not that in certain cases treatment of this character is desirable, and beneficial. Of course there are cases of insanity more or less intimately connected with diseases of pelvic organs in women."

Anna, Ill., State Hospital for Insane:—"We have no gynecologist on our staff. The physician in charge of female department attends all diseases pertaining to the female organs, that come into the hospital, and there are a good many in the course of the year. There are a few cases where insanity appears to be brought about through reflex influence of the nervous system, as there are no other marked or well founded causes known, and under treatment for this morbid condition of the genital organs, many improve."

Illinois Eastern Hospital for the Insane:—"We have female gynecologist. There are many patients who need and are benefited by such treatment. I have not seen any cases however, in which I attributed the insanity exclusively to disease of the pelvic organs."

Illinois Central Hospital:—"We have no special gynecologist; nevertheless much gynecological work is done."

We think there is great need of gynecological treatment and for the same reasons that it would be needed outside of a hospital for the insane. I presume pelvic disease does to some extent, exert an influence upon the mind through the nervous system."

The answers above quoted are as briefly given as possible, and although received after the body of the paper was written, show that some of the conclusions were correctly drawn. It will be plainly observed that the majority do not agree that insanity is often caused by pelvic disease. On the other hand very many admit that gynecological treatment is important as assisting in the cure. One very marked and positive conclusion is drawn from this paper, that the gynecologist can aid the alienist, as shown by the very positive statements of those who have the actual work of caring for those unfortunates. In conclusion, I must again call attention to Dr. Barnes' valuable paper and also give him credit for much information embodied in this article.

PAPILLOMATOUS CYSTOMA OF THE OVARY, WITH REPORT OF A CASE.

Read in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY A. B. WALKER, M.D.,
OF CANTON, O.

Papillary cysts of the ovary are quite rare compared to other varieties of ovarian cysts. They are composed of small cysts, multilocular in form. The smaller cysts are usually irregular in size, and have villous growths and papillary vegetations attached to the inner surface of the cyst wall. Papilliform growths are frequently found on the outer surface of the cyst. The fluid contents of these cysts vary in color from a light straw to a dark wine color. These cysts may be mixed, the glandular and papillary types combined.

These papillary cystoma of the ovary, as a rule, are claimed to take their origin from the traces left of the Wolffian tubules in the hilum of the ovary, and, as with all other growths, grow in the direction where there is the least resistance, which in this case would be between the folds of the broad ligament instead of in the stroma of the ovary. They may grow to be quite large, filling the pelvic cavity, and if unilateral, the uterus will be pushed to one side, while if bilateral, the uterus will be completely hidden from view; or they may push their way up into the abdominal cavity, either single or double, at the expense of the anterior or posterior portion of the broad ligament, and still be extra-peritoneal, growing in front, behind or between the folds of the peritoneum. They may, very early in their growth, break through into the peritoneal cavity and become intraperitoneal, growing then among the intestines and other abdominal organs, or they may take their origin primarily from the intraperitoneal surface of the ovary and start as any other ovarian cystic tumor, either direct from a Graafian follicle, or from a dropsical follicle; but why these cysts should take on the papillary form is as yet unknown to pathologists. It was formerly thought that papillomata were only to be found where papillæ were found, as the skin, mucous membrane and the like; but that view was soon changed, and we now find that papilloma may develop from any epithelial surface. It is rare, however, to find them taking their origin from a serous surface. As condylomata and villous growths, tumors of the variety of papilloma, are caused by erosive fluids or irritant matter when they are found on the genital organs, why not attribute the origin of papillary cystoma of the intraperitoneal surface of the ovary to the same cause, which in this case the irritant matter may escape from the friable extremities of the Fallopian tube during gonorrhœal infections, pyosal-

pinx or tubercular pus, or of other irritating materials that may gain admission in this way.

These papillomatous cysts are very liable to rupture; in fact, a papillomatous growth within the cyst greatly increases its liability to rupture, but as the fluid is benign, there is no danger from its presence either in or on the peritoneum, but after the rupture of one or more of the cysts, the growths are very likely to become attached to any organ or organs they may come in contact with. This is true in particular of the cauliflower form. These ovarian papillomatous tumors are, as a rule, benign, and are not likely to return after their removal. The only trouble to fear is from their extensive attachments to the abdominal organs, which may be so great as to preclude their removal, for they are quite brittle and vascular. In cases reported where all of the growths could not be removed, the portion left was seemingly absorbed. It caused no further trouble, at least, and the patients recovered. These tumors, like other cystic tumors of the ovary, should be promptly removed.

The following case came up in my practice: Mrs. M. R. H., a bright and intelligent woman, aged 44 years, married, wife of a farmer, mother of three children, family history good, enjoyed fair health until birth of first child twenty-four years ago, after which time she complained of distress and pain through uterus and ovaries. After having an attack of typhoid fever eight years since, suffered from pain across lower part of bowels and through her back. About this time she noticed uterus to be retroflected and, as her condition continued to grow worse, she consulted a physician two years later, who, after examination, claimed that her cervix was lacerated and was the cause of all the trouble, and recommended an operation. Six months later another physician was consulted, and claimed all her trouble came from endo-cervicitis, and gave several treatments for same, without any improvement whatever. Three years ago a third physician diagnosed a small tumor in left side, and recommended an operation, but there being such a difference of opinion, the fourth physician was consulted, who claimed that she had a fibroid tumor, and advised that it be let alone. He being an aged man, a physician of much experience, his advice was taken until last November, when she became so miserable and increased in size that she finally, through the advice of friends, went to a hospital in Ann Arbor, Mich., where she remained five weeks for treatment, which consisted of two examinations before a class of students and very free purgation, with no relief. The opinion of the physicians there was, that she had a malignant tumor or growth connected with the liver, probably cancerous, and that her case was not one for an operation.

About January, 1890, she noticed herself becoming larger, and that she was losing in flesh.

The 1st of February, 1891, I was called to visit her, when I found her very thin and emaciated, with a very large abdomen. The enlargement was marked and resembled ascites. She was suffering with proclitica. The whole of her uterus and posterior cul-de-sac protruding, the mass together being as large as a foetal head. She stated that this mass had been out and enlarging since before her visit to the hospital, and that no attempt had been made to replace it. The free purgation she was subjected to there made it much worse. Two abrasions the size of a silver half-dollar were on the posterior part of this mass. She was simply eking out a miserable existence, growing larger daily at the expense of her flesh and strength. I replaced the mass in about two minutes by placing her in the genito-pectoral position, and had it retained in place with a large cotton ball covered with vaseline in vagina, and a T bandage. But little time was spent in making a further examination, as I had learned from past experience that a positive diagnosis could not be made, in particular where the abdomen contained so much fluid. Felt satisfied, however, that the trouble originated with the uterine organs, and that it was in no way connected with the liver. After an examination of her heart, lungs, urine, etc., decided to make an exploratory incision, and remove, if possible, the cause of her trouble. After a thorough preparation of the patient, I opened her abdomen on the 12th of February last, assisted by Dr. E. O. Morrow, of Canton, O., and Dr. G. E. Hambleton, of Louisville, O. The abdominal wall was very thin, a marked absence of adipose tissue. When the peritoneum was opened about three gallons of ascitic fluid were removed, which was of straw color, which then enabled us to get at the real cause, which proved to be a large papillomatous tumor of the left ovary, attached to the ovary, Fallopian tube and broad ligament. With but little difficulty we succeeded in grasping the Fallopian tube and broad ligament close to the cornua of the uterus with a large ovarian forcep, where, with a knife, the growth, weighing $3\frac{1}{2}$ lbs., was removed. The pedicle being quite broad, was first transfixed, then tied with a No. 12 braided, iron-dyed, silk ligature. The abdomen was then thoroughly cleansed with warm distilled water, and closed with No. 8 iron-dyed sutures. The operation was aseptic in every particular, and lasted three-quarters of an hour. The patient rallied well, and seemed to experience but little shock. Ether was administered, its administration preceded by a hypodermic injection of morphia $\frac{1}{4}$ gr., and atropia $\frac{1}{16}$ gr., and an ounce of brandy internally. Next day after operation, 13th of February, 10 A.M., pulse 124, temperature 100.2°. The 14th of February, 10 A.M., pulse 130, temperature 99°, very weak, vomited for the first time, stomach would not tolerate any

food or milk, when we were necessitated to give rectal injections of beef juice, eggs, peptonized milk and brandy to sustain life.

February 15, patient much better and stronger, pulse 100, temperature 99.4, some disturbance of bowels during the evening, which was promptly removed with enema of hot water and the passage of a long rectal tube.

February 16, pulse 92, temperature 100.2°, strength returning. A discharge of blood from uterus noticed, which continued thirteen hours.

February 18, 10 A.M., pulse 84, temperature 99.5°, still gaining in strength.

February 19, 10 A.M., pulse 88, temperature 100. Wound dressed for the first time, which looked well. Union by first intention. Every other suture was removed. The 20th, no report.

February 21, 10 A.M., pulse 80, temperature 99.4°.

February 22, 10 A.M., removed the remaining sutures. Pulse 84, temperature 99.4°.

February 23, 10 A.M., pulse 84, temperature 98.6°.

February 24, 10 A.M., pulse 80, temperature 99.2°.

February 25, 10 A.M., pulse 84, temperature 99°.

She made a good recovery. Sat up for the first time on the twenty-first day, and weighed 84 lbs. Her menses have appeared regularly since. Her uterus remains in, but is drawn over to the left side. She now weighs 105 lbs. and feels better than since birth of her first child.

A microscopical examination of this tumor, made by Dr. C. H. Evans, of our city, showed that the entire tumor was composed of small papillae and multiple cysts.

45 West Tuscarawas St.

PREVENTION OF PUERPERAL ECLAMPSIA BY THE INDUCTION OF PRE-MATURE LABOR.

Read in the Section of Obstetrics and Diseases of Women at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C. May, 1891.

BY HENRY D. FRY, M.D.,
OF WASHINGTON, D. C.

In February, 1883, I presented a paper to the Washington Obstetrical and Gynecological Society on the etiology and prophylactic treatment of puerperal eclampsia, and I desire, with your permission, to quote the conclusions arrived at by a study of the subject offered at that time.

They were:

1. Albuminuria, occurring during pregnancy, is the sign of a pathological change, or of pathological changes, indicative of a predisposition to eclampsia.

2. The prophylactic treatment of eclampsia,

therefore, includes measures adopted to prevent the occurrence of albuminuria. These are, to improve the condition of the blood by the administration of tonics, iron, and a liberal dietary; and to relieve the renal congestion by attention to the functions of the skin and by prohibiting the wearing of tight clothing.

3. The urine of all pregnant women should be systematically examined for albumen after the fifth month of utero-gestation, and earlier if any suspicion be entertained of renal complication.

4. With the recognition of the affection treatment should be directed to its relief. This is divided into general, dietetic, medicinal, and

5. Obstetrical. The latter comprises the graver cases of the disease which not yielding to treatment, demand, by the urgency of their symptoms, prompt operative interference. During the years that have elapsed since that paper was written, I have carried out the conclusions above presented, and have not had a single case of puerperal eclampsia to occur in my own clientèle. Albumen was found in the urine of a certain proportion of the cases, but by treatment it either disappeared or remained small in amount and gave rise to little apprehensions, except in a few instances. These few instances form the subject of my present observations and bring up the question of operative interference in the class of cases referred to obstetrical treatment. The amount of albumen in the urine does not alone furnish evidence of the gravity of the case. Convulsions have been noted when no albumen existed in the urine, and yet post-mortem examination revealed serious organic disease of the kidney. The total quantity of urine passed in twenty-four hours, the amount of solid ingredients contained, together with the symptoms of the patient, furnish criteria for action. Serious toxæmic symptoms may manifest themselves when only a trace of albumen in the urine had produced a feeling of security.

Examinations of the urine should be made every few weeks and oftener if there be any indication of renal insufficiency. The specimen examined should be taken from the entire quantity passed in twenty-four hours, this amount must be ascertained, and the specific gravity estimated. These results furnish evidence whether further investigation (microscopic, etc.), is called for.

When serious symptoms develop and treatment has proved unavailing, the induction of premature labor offers the hope of saving mother and child. Fortunately the question of ending gestation is rarely brought up for consideration, before the seventh month. The child is then viable and has a better chance of surviving if born prematurely than if allowed to remain and be nourished by the poisoned blood of the mother.

The nearer gestation has approached its normal

duration before labor begins, the better, but if the symptoms are threatening it is unwise to delay on this account. Better act a little too soon than too late.

The use of the *couveuse* increases materially the chances of survival of the premature or feeble infant. Out of 829 premature children whose average weight was four and a half pounds, 662 lived, and recently infants have been saved by use of the *couveuse* when only six months advanced in intra-uterine life. By the employment of artificial feeding or gavage in combination with the *couveuse*, the viability of the infant may be placed at six months.

By these means Tarnier¹ has succeeded in saving children at 6 months, 30 per cent.; children at 7 months, 63.6 per cent.; children at 8 months, 85.7 per cent.

The following case recently came under my observation and represents the advantages of this line of treatment.

Mrs. X., æt. 30, a primipara, was placed under my care by Dr. N. S. Lincoln, on November 4, 1890. She had arrived in Washington a few days before after a very trying journey across the continent. Until she reached Chicago she had entire charge of an invalid mother, and being compelled to wait on her at night she contracted a cold. When I saw her she complained of shortness of breath, loss of voice and sore throat. She also suffered from insomnia, headache, nausea, and at times vomiting. She was anarsarcous. Pregnancy had advanced to the seventh month. Fœtal movements were distinct, the heart sounds normal and situated below and to left of the umbilicus.

On the next day, November 5, a specimen of urine was obtained and on examination was found to contain 21 per cent. of albumen. The microscope revealed the presence of hyaline casts in large quantities. The patient was kept in bed, a hot bath, temperature of 100° given daily and flannel worn day and night. The bowels were moved daily by sulphate of magnesia. Diet consisted of skimmed milk.

November 6, 24 $\frac{3}{4}$ urine passed, sp. gr., 1010, albumen 21 per cent.

November 7, 16 $\frac{3}{4}$ urine passed, sp. gr., 1018, albumen 19 per cent.

November 8, 14 $\frac{3}{4}$ urine passed, sp. gr., 1016, albumen 21 per cent.

November 9, 17 $\frac{3}{4}$ urine passed, sp. gr., 1026, albumen 31 per cent.

November 10, 22 $\frac{3}{4}$ urine passed, sp. gr., 1018, albumen 24 per cent.

November 11, 24 $\frac{3}{4}$ urine passed, sp. gr., 1023, albumen 27 per cent.

November 12, 14 $\frac{3}{4}$ urine passed, sp. gr., 1017, albumen 18 per cent.

November 13, 12 $\frac{3}{4}$ urine passed, sp. gr., 1023, albumen 27 per cent.

As the condition of the patient did not im-

¹ Budin: quoted in Amer. Sys. of Obstet., Vol. ii, p. 201.

prove under treatment, and the amount of urine excreted each 24 hours remained so much below normal, I feared to delay longer. The short breathing, which was particularly distressing at night, I attributed to uræmic poisoning of the nerve centres. The lungs were perfectly clear. The insomnia, nausea and headache were unrelieved. My suggestion to induce labor met with Dr. Lincoln's approval, and after conferring with the husband of the patient, and at his request, Dr. J. Taber Johnson's counsel was sought.

Dr. Johnson saw the patient with me on November 13, and considered favorably the propriety of inducing labor.

Preparations having been made already, the patient was placed in position and the parts exposed with a Simm's speculum. After cleaning the vagina and cervix with a carbolyzed solution, a bougie was passed full length between the membranes and uterine walls.

Pains set in after six or seven hours and continued with varying intensity during Thursday night. The head presented in first position and beyond a slight descent into the pelvic cavity, little change took place during Friday. The cervix retained its full length and was dilated sufficiently to pass the finger to the internal os. Early Friday night the membranes ruptured spontaneously; later, the internal os dilated and the cervical canal became obliterated. The external os dilated irregularly; the half on the right side remained thick and undilated. The left half became thin and retracted. The opening, in consequence, was situated on one side, and the thickened right edge occupied the middle of the vaginal passage. At 8 o'clock Saturday morning the os was about two inches in diameter, and as I feared to temporize longer, I requested that Dr. Johnson should see the patient again.

He arrived promptly, and after making an examination, considered it advisable to apply the forceps and employ it for the purpose of dilating the os. The patient was put under the influence of chloroform and the right blade inserted before the left. The blades were applied in this manner because the adjustment of the right blade brought the displaced os into the centre of the vaginal passage and facilitated the application of the second branch.

Intermittent traction was made until the os had dilated and delivery was then effected without further trouble. The perineum was uninjured, but there was a slight tear, about one inch in extent, of the vaginal mucous membrane on the right side of the median line posteriorly. This was closed with a continuous silk suture.

The infant, a female, measured eighteen inches in length and weighed five pounds and a half. It was asphyxiated at birth, but soon responded to peripheral irritation and cried lustily.

The mother had a normal convalescence and on the second day after childbirth, the amount of albumen in the urine had decreased to 8 per cent. The total quantity passed each twenty-four hours varied from 50 to 70 ounces. Examination of the urine made recently failed to detect any albumen or casts, and the mother has fully recovered her health.

The infant was placed in the *couvresse* and the temperature maintained at 100° F. for ten days, and then at 90° for three weeks longer. At the end of the fourth week it was sufficiently developed to be removed from the apparatus.

The mother being unable to nurse the baby, the food consisted of diluted peptonized milk with the addition of cream. Later, the proportion of cream was increased and milk sugar added. At first half an ounce was administered at a time and subsequently the amount increased in proportion to its needs. Sterilized milk was finally substituted for the above and gave better results.

At the end of the first week the baby had lost half a pound; at the second its weight was the same; at the third it had gained half a pound, and from this time it increased in weight at the rate of one-half to three-eighths of a pound weekly.

To further emphasize the value of this method of treatment, I wish briefly to mention the following additional cases that came under my observation.

On June 17, 1883, I induced labor at the thirty-fourth week under the following circumstances.

Mrs. F., at her third pregnancy, had considerable albumen in her urine and some evidence of toxæmia. I felt no little apprehension when her labor came on, but she passed safely through the ordeal. Her convalescence was extremely protracted owing to co-existent cardiac disease.

The fourth pregnancy and labor were very similar to the preceding, and convalescence likewise protracted.

In the fifth pregnancy the conditions were very much aggravated in spite of energetic treatment. Violent headache and impaired vision were prominent symptoms. At eight months and a half, as stated above, labor was induced by the introduction of a bougie. The uterus responded after a few hours delay and the child was born without the appearance of any alarming symptoms in the mother. Convalescence was rapid and she sat up on the tenth day. In this case organic disease of the kidneys was compatible with fairly good health, except when pregnancy existed. Each succeeding pregnancy presented graver symptoms.

Of the three children born in these labors, the only one living at present is the one prematurely born by induced labor. Both the others died

from intestinal diseases when a few months of age.

The next two cases were seen with Dr. W. W. Johnston, and occurred within two weeks of each other.

Mrs. M., a primipara, advanced about eighth month, presented serious symptoms despite treatment directed for relief of albuminuria. Nov. 27, 1888, labor was induced by the introduction of a bougie into the uterine cavity. Unusual difficulty was met with in performing this little operation on account of the existence of what has been so fully described by Dr. Busey, as cystokolpocele. The red tumor formed by the projection of the vesico-vaginal wall so completely blocked the genital passage, that it baffled all efforts to insert the instrument. One variety of speculum after another was tried and abandoned. Finally, by touch the bougie was placed in position. Labor pains came on in due time, and when the os had dilated the child was delivered by forceps applied to the breech.

Mother and child recovered.

The last case, also a Mrs. M., a primipara, presented alarming symptoms during the latter part of her pregnancy. On December 10, 1888, the bougie was placed in position. The uterus failing to respond to the irritation, it was removed and a second one inserted in a different direction. Feeble uterine action was supplemented by dilatation with Barnes' bags, the smallest size being replaced after a few hours by the largest. When the os had dilated, labor was terminated with the forceps. Several hours afterwards the mother had convulsions and for a time was in a critical condition. She finally recovered and the child lived.

These four cases offered every reason to fear an outbreak of eclampsia, and only after energetic treatment had been directed, without success, to the relief of the renal complication, was premature labor induced. This result emphasizes the value of the induction of premature labor for the prevention of eclampsia. While the consensus of opinion may be said to favor such action, it is nevertheless true that some eminent authors fail to endorse operative interference.

The safest, simplest, and consequently, at present, the best method of exciting uterine contraction is the insertion of a bougie between the membranes and the uterine wall. The term catheterization, which is often employed to signify this method, should be discontinued, as the catheter is an unsuitable instrument to use for the purpose. Being hollow, with a hole at both ends, it is easily soiled and with difficulty cleaned. Even if aseptic when used, secretions accumulate within the tube and readily undergo decomposition. The bougie should be prepared by soaking for twenty-four hours in bichloride of mercury solution 1 to 1,000, and then washing in boiled water just before use.

I prefer to insert it by exposing the parts with Sim's speculum and steadying the cervix with the aid of a tenaculum. The end of the bougie is bent at an obtuse angle and guided around the curve of the lower uterine segment. A boricated cotton tampon is placed in the vagina to prevent slipping of the bougie, and to absorb the discharges.

If this treatment fails to excite uterine action the instrument can be removed and a fresh one inserted in a different direction. The majority of cases will meet with success, but occasionally the organ is provoked to contract with great difficulty. Other means, familiar to all, can be resorted to for the purpose of exciting action.

A method recently suggested by Schrader is worthy of trial. It is the alternate application of hot and ice cold fomentations to the abdomen, changes being made every five minutes. Lomer has reported a case in which he succeeded in inducing labor by this means for impaired vision resulting from albuminuria. Pain developed in two hours and in six the child was born.

Full doses of quinine and hot vaginal douches are useful to strengthen uterine pains after they have been started by other means.

Agents to soothe the nervous system and deaden sensibility are valuable during labor to diminish the liability to convulsions. The best of these are morphia hypodermatically, chloral by the rectum, and the inhalation of chloroform. Morphia should not be employed too early as it might arrest uterine action. Chloroform given only to the obstetrical degree meets the indication and aids the dilatation of the os. When dilatation progresses slowly, the early application of forceps, as advocated by the late Isaac Taylor is a justifiable procedure. If labor pains are strong and no delay arises the completion of labor should be left to nature.

If, in any case, operative interference be demanded, chloroform should be the anæsthetic employed. Ether will increase the renal congestion and might precipitate what we have used all our efforts to avoid.

In conclusion it may be well to suggest one other precaution to be taken in these cases. The impaired function of the kidneys increases greatly the dangers of using corrosive sublimate and carbolic acid solutions for vaginal or intra-uterine irrigation.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.—The meetings of the Congress of American Physicians and Surgeons will be held in Washington, from 3 to 6 P.M., September 22, 23, 24, and 25, 1891.

THE OPERATIVE TREATMENT OF
EXTRA-UTERINE PREGNANCY
AT OR NEAR TERM, WITH
REPORT OF A CASE.

Read before the Illinois State Medical Society May 20, 1891.

BY CHRISTIAN FENGER, M.D.,
OF CHICAGO, ILL.

It is not my intention in this paper to give an exhaustive exposé of all the details and the questions that arise in late extra uterine pregnancy, but merely in connection with a case of this kind, which terminated fatally, to describe the thoughts and reflections that presented themselves to me in connection with the case.

I shall, then, first describe the case, the different methods of operation and their prognoses, and later, review the more important points in the management of such cases from my own experience and from the literature as far as I have been able to obtain it.

Case.—Mrs. C., 34 years of age, married thirteen years. Healthy as a child; first menstruated at the age of 14; always regular; three days' duration; for the past ten years two days only; never very abundant. A slight leucorrhœa for a few days following menstruation. Married at 21; a year later, after a normal pregnancy, was delivered of a female child who lived only ten days. Labor was difficult, but forceps were not used. Slight laceration of perineum. She was in labor from midnight until half-past ten the next morning. She had puerperal fever and pelvic cellulitis which confined her to bed for three months. She had a slow convalescence, not being well until three months later. Menstruation returned five months after the birth of the child, and since that time, about ten years ago, has been always regular. She has occasionally had slight leucorrhœa, but otherwise has had no symptoms of disease of the genital organs excepting sterility.

March 20, 1890, she had her last normal menstruation. Two or three weeks later, in April, she felt sick, wanted to eat, but after eating would often feel nauseated. May 15, at noon she suddenly felt a severe pain through the anterior part of the abdomen and the rectum, followed by vomiting. These symptoms lasted for ten days, during which time she was obliged to stay in bed. No fever, no symptoms of hæmorrhage. The symptoms then disappeared and after three weeks she resumed her work of teaching school. She was well until July when a sudden attack of pain which came on at night while she was in bed, necessitated her keeping quiet for a few days. After this time pain would often come on during the night, extending from the abdomen down to the knee, more severe in the right leg. August 5, she had a sudden, severe attack of pain and vomiting which kept her in

bed for two weeks and necessitated her stay at home for two weeks longer. During this time her temperature was normal.

Between the fifth and tenth of August, while in bed with this apparent attack of peritonitis, she first felt fetal movements, faint at first, later stronger. These continued to be felt until December 29. Uterine hæmorrhage with passage of a decidual membrane was never observed. During September, October and November, she was able to be up and about attending to her work in school, but almost every evening she would have pain in the abdomen, which would be aggravated on change of position, and would prevent her from sleeping in the early part of the night. In the second week of December the abdominal pain increased and also came on during the day, so that for fear the pain would come on, she did not dare go out of the house.

December 31, spurious labor set in with severe pain in the left side of the abdomen increasing toward night, which lasted for two days. At this time fetal movements ceased. She remained in bed three weeks, during which time the abdomen commenced to decrease in size. February 10, 1891, six weeks after the death of the child, there was a sudden recurrence of the abdominal pain with vomiting and rise of pulse and temperature.

February 11, I made an examination. The patient was in bed, somewhat pale, pulse 100, temperature 100°. She had been suffering from pain and vomiting for two days, but at this time the vomiting had ceased. The mammary glands were large, areolæ, pigmented and abundance of milk coming from the nipples on pressure. The abdomen was enlarged to about the size of pregnancy at term, but more prominent on the left side, with an area of dull percussion up to the body of the ninth rib, while on the right side it did not extend to within two inches of the lower border of the ribs. Tympanitic percussion in the epigastric and both lumbar regions; dull percussion over the umbilical, hypogastric and inguinal regions.

Through the abdominal wall could be felt a harder, round portion of the tumor to the right of and above the umbilicus—the foetal head. Over the remainder of the tumor no distinct foetal parts could be felt. In the territory below a line extending from the border of the right ribs downward and inward, to midway between the umbilicus and symphysis pubis, and from here to the outer third of the left Poupart's ligament, a distinct placental souffle could be heard, most pronounced in the right hypogastrium.

On vaginal examination, the vaginal portion of the uterus was shown to be somewhat flaccid, standing high up and directed forward against the symphysis pubis. The posterior lacuna was pushed downward into the vagina by a doughy,

immovable tumor, probably the placenta, as no fetal parts could be felt. The patient complained of frequent micturation, that she was obliged to pass water every hour except when asleep. The urine was normal in quantity and color and contained neither pus, sugar nor albumin.

I resolved to wait for the cessation of the placental circulation, as might be indicated by the placental souffle, keeping the patient in bed and under symptomatic treatment.

February 10. Area of placental souffle diminished about one-half.

February 22. No placental souffle could be heard. The patient was removed to the Emergency Hospital for operation, which was fixed for a week after her arrival there.

February 25. Diarrhœa set in with slightly bloody stools, the passages soon becoming chocolate-colored. On microscopic examination no pus cells were found, but fecal matter, fine granular matter and blood corpuscles. Pulse and temperature increasing.

February 28. Pulse 110; temperature 103°. She had several passages of a dark, reddish-brown color. Concluding from this that perforation of the sac into the bowel had taken place, and consequently that sepsis had commenced to appear in the sac, operation at once became necessary.

March 1. Operation. In the presence of the doctors from the Policlinic, Dr. Bellinger, of Council Bluffs, Iowa; assisted by Drs. Bernauer, Hall and Brohm. Chloroform given by Dr. Rosa Engert. Percussion at this time over the entire tumor was tympanitic where it had formerly been dull, showing the presence of air in the fetal sac from perforation of the intestines.

An incision was made in the linea alba, seven inches long, from a point midway between the symphysis pubis and umbilicus, to three inches above the umbilicus. The parietal peritoneum was loosely adherent to the wall of the sac downward; above was the free peritoneal cavity. The sac was here covered with omentum containing a large number of dilated vessels, some of the veins two or three lines in diameter, while most of the adipose tissue of the omentum had disappeared. The parietal peritoneum was united by sutures to the skin. As the adhesions between the parietal peritoneum and the omentum were incomplete, I separated the remaining adhesions with the hand, and packed large sponges into the peritoneal cavity all around the incision, or rather around the territory where the opening of the sac was to be made.

On account of the numerous and large vessels, double ligature of which would have taken too long, I opened the sac with a Paquelin cautery knife. This was used only at red heat. There was considerable hæmorrhage from the omentum,

necessitating numerous ligatures. On opening into the sac there was an escape of fetid air, and later on a discharge of a thin, grayish, fetid fluid of fecal odor. During this time the patient was turned on the side and the wound flushed with warm sterilized water.

The incision was now prolonged six inches. The child presented with the back and left shoulder in the wound. The left arm was first drawn out, but as it was found impossible to deliver the head, the arm was replaced and the left leg drawn out, then the right leg, and thus the child was delivered. After incising the tympanitic abdomen, which collapsed after the escape of the gases, extraction was now easy without violence to the wall of the sac. The umbilical cord was tied two inches from the placenta, at the lower border of the wound. The fetal cavity contained fetid, chocolate-colored fluid and smegma. The patient was now turned on the side and warm sterilized water poured in from a pitcher to flush the cavity until it became reasonably clean, the water being mopped off with large sponges. The large placenta entirely filled the small pelvis and the right iliac fossa up over the surface of the transverse colon. The uterus could not be seen, as it was covered by placenta. The cord was attached down near the symphysis pubis, was of a whitish-gray color and macerated on the surface, showing no signs of circulation. The fetal surface of the placenta was smooth and bluish-gray, looking as if the circulation had ceased.

An attempt to cleanse the inside of the sac by means of soft sponges on long artery forceps, the borders of the sac being held apart by the hand, was immediately followed by a sudden gush of bright red arterial blood from the borders of the placenta, which necessitated immediate packing of the cavity with large pieces of gauze. The deepest part of the sac was in the left iliac fossa where, to the left of the placenta, the distinct contour of loops of large intestine, probably the descending colon and sigmoid flexure, were distinctly seen. They were felt to be covered with a layer of tissue so thin as to indicate that no sac wall existed. No perforation into the bowel could be seen at any point and no escape of gases from the bowel into the sac was noticed, but the contents of the sac had a distinctly fecal odor. A thorough search for the opening into the intestine was not made, as even the slightest manipulation caused copious hæmorrhage from the borders of the placenta.

The large sponges were now removed from the peritoneal cavity, which was then cleansed by means of smaller sponges on long forceps, and the borders of the sac united to the skin by sutures. Strips of iodoform gauze, for capillary drainage, were introduced between the sutures at six different places to a depth of about two inches

between the sac and the abdominal wall. One strip at the right upper border of the wound was introduced four inches, up under the liver. A handful of a mixture of equal parts of salicylic and tannic acids was strewn over the inner wall of the sac and the whole cavity packed loosely with sterilized gauze impregnated with the same powder, of which four ounces in all was used. The wound of incision into the sac was left open and over the packing an antiseptic dressing was applied.

The child was a normally developed male at full term. Instead of commencing maceration, the epidermis was covered with smegma, and in many places was loosened from the corium, which presented a brownish-red, discolored surface.

At the end of the operation, which lasted an hour and a half, the pulse was 150, and reasonably strong; color natural. Half an hour after the operation, pulse 120. Seven P.M.: temperature 100°; pulse 120; no vomiting; the patient has some pain in the sac and the wound; skin moist, expression natural. She has slept for a short time and does not complain much.

March 2. No vomiting; has slept a little and taken some boiled milk; pulse 120; temperature 101°. The outer dressing, which contained a great amount of thin, grayish fluid of fecal odor, was changed.

March 3. A very little discharge in the dressings. Pulse 110; temperature 101°. She takes liquid nourishment and has a moderate amount of pain, which can be controlled by morphine.

March 5. Two stools of a chocolate-colored fluid containing many small clots of blood. Very little secretion from the dressings.

March 6. Three copious evacuations of a bloody fluid containing several clots as large as a hen's egg.

March 7. Last night and this morning several large coagula and liquid blood passed through the rectum. The patient is pale, extremely anæmic, conjunctiva pale, exsanguinated, pulse 130, weak; temperature 99.5°. The patient is fully conscious, and complains of extreme weakness. Skin of extremities and face cold. Infundation of sixteen ounces of slightly alkaline, saccharated saline solution into the cephalic vein. In the evening pulse 120, stronger, and the extremities warm after the application of hot water bottles.

March 8. During the night there was another hæmorrhage from the bowel, after which the patient became semi-conscious, dozing most of the time and complaining but little. Extremities and face cold. Pulse 150, weak; temperature 98°. Died at midnight.

March 9. Autopsy, ten hours after death. No blood in the dressings or in the cavity of the sac. The packing of the cavity is almost dry. The cavity of the sac has diminished to one-

quarter of the size at time of operation, partly by retraction of the walls, partly by filling in. After removal of the gauze, the placenta was found in place on the posterior wall of the sac.

The autopsy revealed an opening at the upper insertion of the placenta, between the sac and the transverse colon. This opening was so covered by the border of the placenta as to make the blood pass down into the bowels, and not out into the sac. The sac was of very different thickness in its different portions. On the anterior surface it was about one-quarter of an inch thick, corresponding to the surface where the foetus was covered with omentum, and consisted in fact, of the thickened omentum. The remainder of the foetal cavity was entirely surrounded by loops of intestines, small intestine and colon, and here the sac wall was extremely thin, in some places cobweb-like, in other places slightly thicker, and everywhere more or less intimately adherent to the wall of the intestine. These adhesions were the result of a plastic peritonitis commencing at the time of the primary rupture into the peritoneal cavity, and extending as the foetus increased in size.

The placenta extended from the posterior surface of the uterus, entirely filling Douglas' fossa, more than six inches upward to the transverse colon. The placental area of the sac was very thin in some places; so much so that it tore into shreds on even so slight a manipulation as that required for the removal of the intestines *en masse* during the autopsy.

Summary of History.—We find, in a patient 34 years old, who had had one child, child-bed being followed by pelvic cellulitis, and who was then sterile for eleven years, an extra-uterine pregnancy characterized by the following course:

In the eighth week after last menstruation, probable rupture of a tubal pregnancy, indicated by sudden pain and vomiting; that is, symptoms of peritonitis, lasting for ten days. In the sixteenth week a similar attack, less severe. In the nineteenth week another severe attack of peritonitic symptoms keeping the patient in bed for one month. In the fifth month she felt life. In the second week of the ninth month a moderate attack of peritonitis. At the end of the ninth month spurious labor and death of the child, indicated by cessation of foetal movements. In the fifth week after the death of the child, the placental souffle began to diminish, and two weeks later it had ceased entirely. Six weeks after the death of the child another severe attack attended with peritonitic symptoms. In the eighth week perforation of the sac into transverse colon. At beginning of ninth week, operation; death six days later from hæmorrhage through the bowel.

Remarks.—This case undoubtedly belongs to a class of cases consisting of an original tubal

pregnancy which secondarily becomes an abdominal pregnancy with the placenta and fetus located in the abdominal cavity. In the great majority of cases where a tubal pregnancy ruptures at the end of the second or in the third month, the fetus dies and disappears, and if the patient survives the hemorrhage, both fetus and placenta are removed by absorption. In a small proportion of cases after this rupture the development of the fetus is continued, and the placenta, still partially connected with the old site in the tube, keeps on growing and implants itself on the walls of the peritoneal cavity, from the small pelvis upward on the anterior, posterior or lateral abdominal wall. When the rupture has given rise to no symptoms of hemorrhage a plastic peritonitis takes place which quickly forms a barrier between the territory occupied by the fetus and placenta, and the remainder of the peritoneal cavity. The product of this plastic peritonitis is probably first a fibrinous exudate, later on organized into connective tissue which forms the so-called sac. This probably does not differ in any respect from the connective tissue layer found in the wall of any other localized or, as it is called, encapsulated peritoneal exudate.

As the growth of the fetus and placenta continues, more and more space is required, rupture of the sac occurs into a new territory of peritoneal cavity up to this time intact, and this territory is again limited by a plastic peritonitis resulting in an enlargement of the sac sufficient for the needs of its contents for some time. This procedure gives rise to symptoms of peritonitis, acute in its onset, but which gradually subside. In certain forms of purulent peritonitis we find a similar method of intermittent extension giving rise to successive attacks of peritonitis with free intervals between the attacks.

This mode of development makes it natural that the sac should vary in thickness and resistance in different parts. Thus we would expect to find it thicker in the space between two intestinal loops or between a loop of intestine and one of the viscera, than on the convexity of the wall of these organs. The greatest thickness of the sac will be found, as in this case, where the omentum has participated in its formation. This would naturally occur on the anterior surface of the fetal sac. The thinnest portion of the sac wall will be found on the convexity of the loops of intestine, and this is the place where rupture into the intestine takes place, either spontaneously or during attempts at extirpation of the sac.

In extra-uterine pregnancy where a uniformly thick sac wall is found, it is natural to suppose that rupture of the tube has not taken place, but rather a uniform dilatation. These are probably the cases in which one layer of the wall of the sac is composed of organic muscular fibres, and

in such cases, total extirpation of the sac is possible.

Entire absence of the sac, the fetus lying in the free peritoneal cavity between intestines which are not matted together with adhesions, is a rare occurrence. Such cases have, however, been described by King, Lawson Tait and Goetsch. In the case of Lawson Tait, the intestines protruded immediately after the extraction of the fetus through an opening made in the posterior cul de-sac of the vagina. In the case of Goetsch, at the time of laparotomy, a full grown child was found free amongst the intestines, but yet, strange as it may seem, fresh and not decomposed, although laparotomy was not performed until two years and a half after the spurious labor.

Symptoms.—I shall not enter into a consideration of all the symptoms of extra-uterine pregnancy, because these are to be found in the textbooks. There are, however, two symptoms in this case to which I wish to call attention, mainly on account of their prognostic significance; first, the repeated attacks of peritoneal irritation, and second, the final symptom of perforation into the bowels—the bloody diarrhoea.

We notice in this case repeated, severe attacks of symptoms of peritonitis, so severe as to keep the patient in bed sometimes for a month at a time, and characterized by intense abdominal pain, vomiting and occasionally tympanitis. These attacks necessarily caused progressive loss of strength and emaciation, and thus the patient's condition became gradually less and less favorable for operation. In this class of cases early operation, irrespective of the condition of the child or of the placenta, would be likely to give a better prognosis for the mother.

The final catastrophe, perforation of the sac into the intestines, bladder or vagina, is characterized by a discharge of the liquid contents of the fetal sac, liquor amnii or pus; usually mixed with blood. Perforation into the intestinal tract is by far the most common, as the intestinal wall furnishes only slight resistance, and as a large area of the foetal sac must necessarily be formed of loops of intestine. Diarrhoea, usually bloody, is the first symptom, rapidly followed by symptoms of sepsis due to microbic invasion of the sac. Rapid pulse and high temperature commence within twenty-four hours of the rupture. An especially characteristic symptom and one well marked in this case and caused by the entrance of gases from the intestinal tract into the sac, is tympanitic percussion over the area where formerly dull percussion was found. This symptom is of course absolutely pathognomonic of rupture into the bowel.

Rupture into the bowel is a common occurrence, as out of one hundred and thirty-two cases collected by Hecker, cited by Bandl, the fetus

was eliminated through the rectum in twenty-eight instances with recovery of the mother. It is not too much to assume that this condition was present in at least a corresponding proportion of the forty-four cases in which the mother died without an operation having been performed, as sepsis must invariably follow the perforation.

Prognosis.—The prognosis is always grave, varying in the older statistics between a mortality of forty-two and eighty-eight per cent. Hecker forty-two per cent., Kiwisch eighty-two per cent. Henic, eighty-eight per cent.

Operative treatment.—Asepsis in operation has recently given a mighty impulse toward the amelioration of the prognosis of this grave condition, and the successful results as regards saving the lives of the mothers has made the operations for extra-uterine pregnancy to be counted by hundreds during the last four or five years, while formerly they were only sporadic occurrences.

The greatest success is accomplished by the operation in the early months of pregnancy, but it must be acknowledged that operations at or near term are at present not nearly so dangerous as they were in former years. A strict line of distinction must be drawn between the operations in the beginning, and those toward the end of extra-uterine pregnancy. The two conditions, although only different stages of the same anomaly, present such vitally different anatomical conditions, chiefly on account of the difference in the size of the territory and the difficulty of the operation, that comparison is impossible. The early operation is technically no more difficult than the extirpation of the normal non-adherent uterine appendages; the operation toward the end of pregnancy, however, by which we mean the total removal of ovum and its contents, is always formidable and often technically an absolute impossibility.

Early in pregnancy, whether before or after rupture of the tube, which is almost always the primary seat of extra-uterine pregnancy, the operation presents no technical difficulties. The adhesions are slight or not present, for the tumor rarely exceeds the size of an orange or a large fist. Hæmorrhage is easily controlled by ligation of the vessels of the broad ligament, which can always be found without difficulty. The prognosis of the operation is always good if the mother is in good condition; that is, is not exsanguinated by copious intra-abdominal hæmorrhage from a previous rupture of the tube.

The operation in the latter half or at the end of pregnancy is usually formidable. The extirpation of a sac which often fills the greater part of the abdominal cavity, with adhesions to innumerable loops of intestines, the walls of the sac varying in thickness and consistency from that of tissue paper to quarter of an inch, together

with the danger of hæmorrhage from a full grown placenta which may be divided by the incision into the sac, or if not divided may even by slight detachment at its border cause a gush of blood which would fill the sac in a minute; such conditions put to a most severe test the presence of mind of even the most experienced operator.

The considering the operation in the latter half of extra-uterine pregnancy we distinguish between laparotomy with living child, the so-called primary laparotomy, and laparotomy after the death of the child, the so-called secondary laparotomy. This distinction has no technical, but only a prognostic value for the child and mother.

From another point of view, we distinguish between the radical operation, removal of the whole of the fetal sac with its contents, child and placenta, and the non-radical operation or incision of the sac, a linear opening into the sac large enough for the delivery of the child, and the union of the borders of this incision with the opening in the abdominal wall. As regards this latter operation, we make a further distinction between the operations where the placenta is removed at the operation and those in which it is left to come away spontaneously later on, or as in very rare instances to remain in the peritoneal cavity, where it partially disappears by absorption, or may be transformed into a mass of cicatricial tissue, as has been observed by Goetsch and Braithwaite, on the outer wall of the uterus.

It is evident from what has been already stated that the radical operation is technically the most difficult one, for on account of the nature of the so-called sac, its total removal is usually difficult, and very often impossible. Thus the choice between incision and extirpation would require very serious consideration in the individual case, and the surgeon will often find himself in a very serious dilemma in this regard.

Thus in a number of instances, extirpation of the sac has been commenced, but after the operation has been partially performed the extirpation had to be abandoned on account of the impossibility of proceeding further. In such cases a part of the wall has been extirpated and part united with the abdominal wound; in other instances the connection of the sac with the uterus has made it necessary to amputate the latter, in order to accomplish the total removal of the sac. The advantage of the total removal of the sac, even if it involve so serious a complication as abdominal supra-vaginal amputation of the uterus, lies in the control of hæmorrhage by ligation of the uterine arteries, and in the greater security against sepsis or intoxication from a non-removed sac and placenta.

The prognosis of the operation as given by the statistics from the literature up to date shows a remarkable decrease in mortality in the last five

years. Primary laparotomy was attended by a very great mortality up to the end of 1886. Thus, Werth reports eight cases with seven deaths, a mortality of eighty-five per cent.; Litzmann, ten cases with nine deaths, ninety per cent.; Harris, thirty cases with twenty-five deaths, eighty-three per cent. From 1887 to 1890 inclusive we find reported by Leopold Meyer seventeen cases with five deaths, a mortality of thirty per cent. This may be fairly considered as the present mortality of primary laparotomy for this condition.

Up to 1886 the mortality of secondary laparotomy was, as Litzmann states, to a great extent dependent upon the presence or absence of placental circulation. The operations before cessation of placental circulation had a high mortality. In ten cases in which the operation was done within the first five weeks after the death of the fetus there were eight deaths, a mortality of eighty per cent.; while later operations, from six weeks to a year after death of the fetus, had a much less mortality; Litzmann reports twenty-three cases with six deaths, a mortality of twenty-six per cent., and Werth, twenty-five cases with eight deaths, a mortality of thirty-two per cent. This great difference in the mortality led Litzmann to advise against operation immediately after the death of the fetus and to advocate delay until after cessation of the placental circulation.

For the last four years, the statistics of secondary laparotomy show a still better prognosis. Leopold Meyer reports seventy-two cases with twelve deaths, a mortality of only eighteen per cent. As far as can be observed, the secondary laparotomies during the last four years have not been performed with strict regard to the cessation of placental circulation. It is likely, however, that Litzmann's advice has caused many operators to postpone the operation as long as possible.

The prognosis of extirpation as compared with incision, so far as the statistics of the last four years enable us to judge of this question, shows very little difference in the mortality of the two operations. Thirty-six cases of extirpation, or the radical operation, have been reported, with six deaths, a mortality of sixteen and seven-tenths per cent.; and sixty-four cases of incision, or the non radical operation, with twelve deaths, a mortality of eighteen and seven-tenths per cent. Four cases were reported in 1890 of partial extirpation; that is, cases in which extirpation was attempted but could not be completed on account of the impossibility of freeing the sac, with two deaths, a mortality of fifty per cent. It will thus be seen from the statistics that incision has been performed nearly twice as often as extirpation.

In the non radical operation, incision, the question has been raised as to what should be done about the placenta, whether it should be removed or left *in situ*. The attempt to remove it

had its justification in the desire to obviate the danger of sepsis or intoxication from the considerable amount of dead tissue of the decomposing placenta. The danger of removing the placenta at the time of operation is on account of the difficulty or impossibility of controlling the hæmorrhage from the sac of the placenta. It has been proposed that those who perform the radical operation should control the hæmorrhage in one of the following three ways:

1. By previous ligature of the spermatic and uterine arteries before removal of the placenta.
2. By ligature *en masse* of the bleeding parts of the placental territory of the sac after the removal of the placenta.
3. By pressure from packing the sac full of sterilized gauze impregnated either with iodoform or with a mixture of salicylic and tannic acids.

Ligation of the spermatic and uterine arteries can be done only in cases where the broad ligaments are accessible. This is probably of comparatively rare occurrence, as in most cases in which the sacs are not well defined, the broad ligaments and uterine horns are hidden below the placenta.

Ligature *en masse* of the placental territory of the sac is extremely difficult and often impossible, partly because of the enormous hæmorrhage from this territory and partly because of the danger of injury to the intestines if in close proximity to the bleeding placental site.

Pressure by packing the sac with gauze is unreliable, as we have to deal with a cavity which has no firm walls against which to make pressure.

The statistics for the last four years show twelve cases in which the placenta was removed, with four deaths, a mortality of thirty-three per cent.; and twenty-nine cases in which the placenta was left undisturbed, with five deaths, a mortality of seventeen per cent. Thus we may conclude that it is at the present time more safe to leave the placenta intact, as was done in the majority of cases, or at any rate, to limit the attempt to remove the placenta to those specially favorable cases where the afferent vessels can be found and secured before its removal.

Final Remarks.—The most important points to consider in extra-uterine pregnancy advanced beyond four months are:

1. When shall we operate?
2. And what operation shall be done?

The question of the time for operation cannot be solved merely by looking at the mortality from the statistics. The fate of the child I shall leave entirely out of consideration, as I believe that very few operators of to-day agree with Lawson Tait in weighing the life of the child against that of the mother.

The maternal mortality as seen in the statis-

tics, shows as stated above, a great difference between primary and secondary laparotomy, a difference of twelve per cent. in favor of the latter. Notwithstanding this, a number of modern operators are inclined to give up the secondary operation and operate as early as the diagnosis is made irrespective of the child or of the placental circulation.

Certain operators, such as Olshausen, Lawson Tait, Thornton, Werth, Lusk, Wilson, Doran, Hart, Martin, and others, advocate operating as early as possible. To explain this, notwithstanding the apparently greater safety of the late operation, there must be a fallacy in the conclusions drawn from the statistics. This fallacy is the following: A number of patients, especially those having recurrent attacks of peritonitis, will die either from peritonitis or from perforation and sepsis before the time for the late operation has arrived. If these cases of speedy death after rupture were included in the statistics of the mortality of the secondary operation, its percentage would be materially increased.

During extra-uterine pregnancy the mother is in danger all the time, from rupture with hæmorrhage and sepsis. It is impossible to know when this will occur and it has often been observed, as it was in my case, that rupture has taken place during the time of waiting, before the day set for the operation.

Rupture is always followed by sepsis, and an operation of necessity in the case of a septic patient has of course a bad prognosis. Sometimes even, death will come so suddenly that it would have been impossible to perform an operation, as in an instance mentioned by Harris in which the patient died half an hour after perforation had taken place.

It remains true that a number of extra-uterine pregnancies go through to full term without rupture or even after term for months or years; It also remains true that the longer after the death of the fœtus the operation is performed, the less is the mortality. But it is impossible to foresee in a given case whether or not the patient will escape rupture and sepsis. Hence the conclusion to operate as early as possible as a prophylactic measure. As early as possible means as early as the diagnosis is made, and this I consider to be the standpoint of to-day in this regard.

If the future repeats the history of the past we may confidently expect that the prognosis of the early operation will be still better than heretofore. Future clinical observations should enable us to make a differential diagnosis between two distinct classes of cases: The one, those in which perforating peritonitis does not take place and the patient is in no danger at any period before or after term; the other, those in which the patient is exposed to the dangers of perforation and sepsis at any time. When this stage of pro-

gress has been reached the late operation may again have a legitimate field.

The question of the choice between extirpation and incision is much more difficult. The almost equal mortality from these operations, as shown above in the statistics, helps us very little in this respect, as it does not indicate by any means an equal choice between the two procedures.

The radical operation, desirable as it is, as far as control of sepsis and hæmorrhage is concerned, can be done only in a limited number of cases where the sac is so uniformly strong and the adhesions so favorably arranged as to make this operation possible. In a large number of cases incision would have to be done as a matter of dire necessity, in cases in which the condition of the sac and extensive, short adhesions, especially to the intestines, have made extirpation impossible.

The choice between the two operations is much more difficult after the sac has been opened and the child delivered, for it is often impossible to determine whether an attempted extirpation can be finished or not. The unfinished operation, the so-called partial extirpation, has a mortality of fifty per cent.

A difficult radical operation will tax the skill of the most experienced operator to its utmost, and the attempt to loosen the sac from the intestines has in several instances resulted in multiple intestinal wounds followed by death from shock and hæmorrhage, and this result may follow too bold an attempt in this direction even during the operation. Slight manipulations of the sac have often caused such a formidable and sudden hæmorrhage from the placenta that further operating has been rendered well nigh impossible.

The future will have to decide whether rapid removal of the placenta, and hæmostasis after its removal, can be advocated as a justifiable and safe procedure.

The non-radical operation has the advantage of being easy of performance, of requiring only a slight amount of operating and of taking but little time. Thus it would seem natural that this operation should be preferred by less experienced operators in all cases.

The placenta should not be removed in the operation of incision excepting in those very late cases where it has been already detached and lies loose in the sac.

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THE JENNER CENTENNIAL

The Report of the Committee on the Resolution of Dr. J. M. TONER, to Consider the Propriety of Celebrating the Centennial of the Discovery of Vaccination, by Jenner, with the Opinion of the Members of the Committee.

In accordance with a resolution introduced at the forty-first annual meeting of the American Medical Association, at Nashville, a circular was sent out to the members of the Committee of the Jenner Centennial of the Discovery of Vaccination, by the Chairman, Dr. J. M. Toner, stating the resolution upon which the inquiry was founded, and sitting forth in a series, nine specific interrogatories, which are hereby appended:

Circular to the Members of the Committee of the American Medical Association on the Jenner Centennial of the Discovery of Vaccination.

"WHEREAS, It is fitting that the American Medical Association should take proper notice of the Centennial of the Discovery of Vaccination, by Dr. Jenner, as a protection against small-pox, which will occur in a few years; therefore, to the end that due and timely consideration be given to the subject,

Be it Resolved, That the President of this Association be empowered to appoint a Committee, to consist of one physician of recognized ability from each State and Territory of the United States, to consider the whole subject and report a practical scheme which shall bring the century of the practice of vaccination in this country under review, and in such study secure the expression and coöperation of the medical profession residing in every part of our country, old and new, and report with recommendations as to the scope and methods to accomplish this, to the next meeting of this Association, for its consideration and adoption."

MY DEAR DOCTOR:—Under the preamble and resolution which heads this circular, the President of the American Medical Association has named the committee thus authorized, of which you are one. It is an agreeable duty for me to announce to you this fact (although the constitution of the committee has already been published in the Journal of the Association), and to solicit your earnest coöperation and advice in the matters submitted to us, that we may collect the views of each other by writing, as it is manifestly impracticable to have a meeting of the committee at which anything like a majority could attend; but by a correspondence, we may agree upon a report, based upon the views of a majority, to be submitted to the American Medical Association, at its next meeting, for its consideration and action.

With a desire to aid in taking a comprehensive view of vaccination, and the benefit which its discovery has been to the world, as well as how most appropriately the medical profession of the United States can express its gratitude to the memory of the great discoverer, and, at the same time, give unity to a line of thought in these directions, the following inquiries are formulated from the suggestions of the preamble and resolution creating this committee; and are submitted

for your consideration. As they embrace some of the more essential points of the project specific replies are requested to each of these inquiries, in their respective order.

But I entreat you to bear in mind that the whole subject embraced in the resolution is submitted for our consideration, and recommendation to the Association; therefore, take these queries only as spurs to reflection, and freely suggest whatever you may deem important, and which, in your judgment, will add interest and value to this, in many respects the most important event in the history of medicine.

Inquiry 1. Is it desirable and feasible for the medical profession of the United States to take special notice of the approaching centennial of the discovery of vaccination by Dr. Jenner, and if so, to do it in so considerate and thorough a manner as to give to the occasion a pronounced professional, scientific and historic character? If your judgment approves of the purposes indicated in "Inquiry 1," please give briefly the chief reasons which occur to you for such action on the part of the profession. Designate your answers to "Inquiry 1" *a, b, c, d, e*. But if your judgment be against "Inquiry 1," please give briefly your reasons for such a conclusion and designate them as No. 1, *a, b, c, d, e*.

Inquiry 2. If you approve the general proposition for a systematic observance by the medical profession of the United States, is it your opinion that the American Medical Association should dignify the occasion by providing for comprehensive reports on vaccination from all the States, and devote at least one day that year (say Thursday, during the annual session), for their consideration, embracing an eulogy on Jenner, and addresses and papers from special students on vaccination, and by the members of the Centennial Committee, or parties selected by them from the several states, with voluntary papers, etc., covering the practical, as well as the popular side in the history of vaccination in our own country during the century.

Inquiry 3. The approval of the general project of course carries with it the necessity of outlining with some degree of definiteness, the scope of studies and inquiries proper to be made, and which may tend to honor Jenner and redound to the credit of the profession of the United States.

In answering "Inquiry 3," you are requested to outline the scope and extent of the inquiries you would deem it desirable to have made. *a*, How and by whom collected? *b*, Is it best to have one person in each State responsible for the work in his own State, with such assistance as he may evoke to collect the data? *c*, Would you have the centennial services assume the character of a symposium, where each participant would respond to an assigned theme in a written report or paper, and thus cover the whole

field for each and every State, city and county in the Union? for the Army, the Navy and the Marine-Hospital Service; or *d*, would you centralize and ignore State lines, the Army, the Navy, etc., and speak in general terms for the country as a unit and a Nation?

Inquiry 4. Is it desirable, and would you advise, that an effort be made to collect as far as possible, all the facts relating to the history of vaccination in our country, and have them embraced in a history of the progress and practice in each of the several States, counties, cities and municipalities of our country, by forming committees in each, who should procure copies of all the laws and regulations which have once been in force, as well as the existing laws and regulations, whether advisory or compulsory in the several States and cities in the United States, the Army, the Navy and the Marine-Hospital Service, to be embraced in a report to be made by the Jenner Centennial Committee to the American Medical Association in our centennial year.

If you approve of "Inquiry 4," please give briefly the chief reasons for your conclusions, and record them as No. 4, *a, b, c*.

If you disapprove "Inquiry 4," please give briefly the reasons for your conclusions, and record them as No. 4, *a, b, c*.

Inquiry 5.—Is it practicable, and, if practicable, would it, in your opinion, be of historical value to the profession to collect, as far as possible, copies of all documents and publications which have been in any way connected with vaccination, whether appearing in book form, pamphlet, report, newspaper, journal, broadside, etc., which have appeared in any State or city in the Union since the discovery of vaccination? *a*—Where printed copies cannot be had should manuscript copies be made; or, *b*, exact titles of them, when and where printed, be made?

If you approve of "Inquiry 5," please state the chief reasons in its favor and record them as No. 5, *a, b, c, d*.

If you disapprove of "Inquiry 5," please state chief reasons for such conclusions and record them as No. 5, *a, b, c, d*.

Inquiry 6.—Is it desirable to have a wide discussion on the practical, as contra-distinguished from the historical, side of vaccination in the proposed Centennial, to include the most approved methods to secure the fullest benefits of the operation?

a—The advantages of bovine virus over that which has passed through the human system:

b—The cause of alleged failures of vaccination to protect against small-pox:

c—The advisability of compulsory laws to secure general and universal vaccination:

d—And, in view of the fact that disparaging remarks are occasionally made and published by people of education and influence, should we not,

in the most positive and unqualified manner, declare our confidence in bovine vaccination as a complete protection against small-pox? What other subjects would you admit to the discussion?

If you deem it desirable to have the practical side of vaccination discussed, please give briefly the chief reasons in its favor and record them as No. 6, *a, b, c*.

If you deem it inadvisable to discuss this practical side on such an occasion, assign the chief reasons which present themselves to you and record them as No. 6, *a, b, c*.

Inquiry 7.—From your acquaintance with the medical gentlemen of your State, what, in your opinion, is the best method of engaging their hearty coöperation in collecting such information as will make the proposed Centennial of Jenner's great discovery at once an ovation to his memory, a credit to your State, and a benefit to the medical profession of America?

Here give your views as to the efficiency of the coöperation which may be expected from proper applications to your organized medical societies, State, county and city.

b—Make suggestions as to any method of obtaining the historical data for your State which may occur to you.

c—Have you one or more authors or experts on vaccination whose appointment on a committee would command the confidence of the profession of your State and secure the coöperation of their medical brethren?

d—Should the committees to collect data in the several States consist of one or more members?

Inquiry 8.—Unfortunately, State Medical Societies do not exist in all the States, nor do local societies exist in all the counties in those States where there are State Medical organizations, although the theory on which the American Medical Association is formed, contemplates the county medical society as the unit of organization, whose delegates shall constitute and form the State Medical Society. Where County Medical Societies exist, should they in every case be applied to for aid? To what extent, in your opinion, can these be relied upon to coöperate in the collection of the data required for the reports suggested?

Here express your own views, and for your own State.

Inquiry 9.—Where County Medical Organizations do not exist, and where existing County Medical Societies fail to coöperate when requested, what expedient can be adopted to secure from these localities the data required?

To meet such contingencies, would it be expedient and desirable to have lodged with the Chairman of the General Centennial Committee the power to appoint one or more reputable physicians as a committee in such counties to furnish the desired information?

Give your view of the desirableness of the power asked for in this "Inquiry 9." As a member of the committee, volunteer whatever suggestions you think may serve to dignify and make profitable the proposed Centennial of the discovery of vaccination, and secure the compilation of as complete a history of the beneficence of its practice in the United States as practicable.

You are earnestly requested to give to this subject an early consideration. A want of uniformity in responses, with the new and valuable suggestions not here presented or as yet thought of, will require much correspondence, and the repolling of views so as fairly to embrace the judgment of the majority of our committee in a report.

You are particularly requested to number your responses to all inquiries as suggested, so as to facilitate the work of tabulating the views and recommendations of the several members.

Mail your answers to DR. J. M. TONER,

Chairman of Committee of American Medical Association.

615 Louisville Ave., Washington, D. C.

Replies were received from twenty-two States, as follows: Alabama, Connecticut, Delaware, District of Columbia, Florida, Indiana, Iowa, Illinois, Kentucky, Kansas, Maryland, Missouri, Michigan, Minnesota, Massachusetts, Nebraska, New Jersey, New Hampshire, North Carolina, Ohio, Pennsylvania, Wisconsin and Virginia.

Your Committee have thought best to present the substance of the replies which have come in from the different States, in order to place the matter fairly before the Association.

Reply to Inquiry 1.—"Is it desirable and feasible for the medical profession in the United States to take special notice of the approaching centennial of the discovery of vaccination by Dr. Jenner?" etc., was answered in the affirmative by Alabama, Connecticut, Delaware, District of Columbia, Florida, Indiana, Iowa, Illinois, Kentucky, Kansas, Maryland, Michigan, Missouri, Minnesota, Massachusetts, New Hampshire, New Jersey, North Carolina, Ohio, Pennsylvania, Virginia and Wisconsin, the language of each being emphatic in tone, as a few extracts will show:

Dr. Jno. R. Quinan, of Maryland (since dead) writes: "A centennial celebration of the discovery of vaccination is highly desirable, *a*, as an evidence of our grateful remembrance of Jenner; *b*, as an additional proof of our entire and abiding confidence in the efficacy of vaccination; *c*, as a means of calling the attention of the public to its advantages, and teaching it anew the lasting and inestimable debt it owes to our profession in the discovery of the greatest boon ever offered to the human race."

Prof. C. A. Lindsley, of Connecticut, says: "The recognition of the discovery of vaccination at its centennial anniversary has my most hearty approval, *a*, because it has contributed more to the welfare of mankind than any other discovery; *b*, because it is justly due to the great discoverer that the lustre of the name of Jenner be made to shine, that all men may pay it deserved homage; *c*, because in these days of centennial celebrations, an omission would be discredit to our profession, and would give encouragement to those aberrant and erratic minds who would defame Jenner, and deny the value of vaccination."

Dr. Jno. P. Ware, of Florida, says: ". . . it is desirable

to take special notice of the approaching centennial of Jenner's great discovery, May 14, 1806, *a*, as honoring the memory of a great man and a noble philanthropist; *b*, to give renewed public confidence in the prophylactic virtue of vaccination, in refutation of the teachings of the anti-vaccinationists; *c*, for the purpose of convincing the public of the mischievous writings for the public of Dr. Chas. Creighton in the *Encyclopædia Britannica* and in the *Arena* magazine."

Dr. Jas. F. Hibberd, of Indiana, says: "Yes, it seems both desirable and practicable for the profession in the United States to take special notice of Jenner and vaccination at the centennial of his discovery. *a*, It will be a suitable and favorable time to freshen up the subject, and impress the people of this country with the nature and value of vaccination; *b*, Dr. Jenner's memory should have distinguished consideration for the acumen that led him to discover vaccination, and for the courage with which he wrought out the problem to a demonstration in the face of great discouragement; and Americans should do this honor as testifying to their appreciation of the imperishable fame that attaches to the name of Jenner, and at the same time constituting an expression of American admiration for pluck, and as an encouragement to young scientists who may encounter similar stumbling-blocks."

The only qualified approval was from a distinguished student of vaccination in New York, who believes "it would be better for the American profession to coöperate with their colleagues in other countries than to celebrate on their own account."

Reply to Inquiry 2.—"If you approve the general proposition for a system of observance by the medical profession of the United States, is it your opinion that the American Medical Association should dignify the occasion by providing for comprehensive reports?" etc. All the reporters agree with the general proposition, except that a few think three days little enough time to devote to such a great question. The late Dr. Quinan, who is among this number, says: "While heartily endorsing the efforts of the American Medical Association in this regard, I do not think one day sufficient to do justice to any programme of exercises at all worthy of the occasion. Three days at least ought to be devoted to it. The first day's exercises should embrace the history and literature of vaccination, including eulogies on the life and labors of Jenner; of Waterhouse, of Massachusetts; Seaman, of New York; James Smith and others of Maryland; J. R. Cox, of Philadelphia; Dr. Gantt, of Washington; Dr. Wardlaw, of Virginia; Dr. Ramsay, of South Carolina; a report on the literature of vaccination; the statistics and scientific aspects of vaccination. The third day to be devoted to papers on the practical results and blessings to the public."

Report on Inquiry 3, as to the "scope and extent of the inquiries you would deem it desirable to make," etc.

Maryland would select a representative man from each State to collect the data required, except where the small size, contiguity of territory and similarity of history in regard to vaccination admits of grouping them; hence he would have but one appointee from New England, one from New Jersey and Delaware, one from District of Columbia, but one for the territories, and one from the Pacific States, the other states should have one each.

Alabama "Suggests one able and competent person collect the data wanted with the assistance of one person in each State. Thinks there should be only one person from a State, and that it would be desirable to centralize and speak for the country as a unit," etc.

Wisconsin thinks a committee from each State would be advisable, and the experts might be invited to prepare papers; would centralize and treat the whole country as a unit.

Ohio thinks the scope of enquiry might be modified by the character of the investigation being made by the

Royal Vaccination Commission, Great Britain; not advisable to follow in their track.

Massachusetts: A eulogy on Jenner and reading of papers on different phases of the question by special students of vaccination. Special students should prepare papers—these being selected by the committee or being volunteers approved by the committee.

North Carolina: The inquiries should be historical, statistical and scientific.

Pennsylvania thinks that every phase of knowledge of vaccination should be inquired into. The prophylactic power; the duration of protection, and the value of re-vaccination; the unfortunate results of vaccination and how to guard against them; the relative value of bovine and humanized lymph; a discussion of the question whether or not could vaccination be made more general by a compulsory law.

New Jersey: Dr. Ezra M. Hunt, N. J., answers yes! "That the claims of Jenner to recognition are being disputed by those of scientific and professional reputation, and that this dispute involves the whole subject of vaccination."

"The article of Dr. Creighton in the *Encyclopædia Britannica*, his utterances since, his testimony before the parliamentary commission that vaccination is of no value; the two wonderful volumes of Prof. Crookshanks and his concurrence in this opinion, and the position of the anti-vaccinationists generally is such that however much we assert, their views must be met by facts and counter evidence."

Investigation should be made by State Medical Society, State and city boards of health. The headships of committees should be given to one who has time and accurate capacity, not for long rhetoric or long essay, but collective investigation with authorities attached. The best evidences of the value of vaccination in its best form, by a full committee formed of the chairman of the local committee named, who in order for success should have for a year or more a paid secretary.

Michigan: Would have one person to summarize in general for the country as a unit and a nation.

New Hampshire: Thinks the investigation and the history of the introduction into the United States should be by one man.

Missouri: Thinks that the question as to the nature of the investigation may be best left to a central committee, but that to secure system and coherence the same committee should direct the preparation of assigned themes, reports, etc.

Kansas: Physicians should be appointed to the work. Definite topics should be assigned to those selected, that the whole ground may be covered and repetitions avoided. States might be dealt with individually and a member might be selected from Army, Navy and M.-H. S.

Virginia: Would select the State Vaccine agent, where there is such an officer to be chosen of State committee on Centennial. Would not require State lines in the inquiry.

Kentucky:—Would entirely ignore State local lines and limits. Has little confidence in the attempt to gather statistics from various States and smaller political divisions.

Iowa:—Would have a committee from each State collect data presenting condition of laws regarding vaccination, and make arrangements for a general address by a speaker by them selected.

Delaware:—Would be desirable to condense and tabulate all facts and papers received, on history of the discovery, benefits derived from it, necessary legislation required to make it effective.

Indiana:—Scheme should embrace a succinct history of the use and progress of vaccination in England, and in a general way the world over. When its introduction spread over the United States. All of this should be conducted under the superintendence of one person thoughtfully selected by American Medical Association,

commissioned to select his own advisers and assistants.

New York:—Would centralize and ignore State lines, the army, the navy, the marine hospital service, and speak in general terms for the country as a unit and as a nation.

Connecticut:—The work could be best done by a small committee, yet in large States a different plan might be preferred. Vaccination applies to all mankind.

INQUIRY 4.

"Is it desirable . . . that an effort be made to collect as far as possible all the facts relating to the history of vaccination? in our country . . . by forming committees in States, counties, cities, etc."

Connecticut:—It would make a large library.

New York:—Would be exceedingly bulky and of little value.

Indiana:—It would be impracticable to get material for each county, etc. Would be a waste of time and hunt for two grains of wheat in two measures of chaff.

Alabama:—Impracticable to embrace much minute matter in the report.

Michigan:—Would not deal with counties or cities except a few of the largest.

New Hampshire:—For the purpose of historical preservation research should be made, *but by one man*.

Missouri:—Desirable to have the history but don't know if it is practicable. Would make the effort.

Kansas:—Thinks it ought to be done.

Iowa:—Would make a memorial volume, and let committee control the continent.

Delaware:—It would be desirable to condense historical matter.

North Carolina:—Thinks it desirable to make the historical research.

Pennsylvania:—Approves of the research but advises no printing tedious details.

New Jersey:—Would by all means make the effort.

Virginia:—Thinks as it is a historical commemoration that all the historical facts should be collected.

Massachusetts:—A general history of vaccination should be obtained for this country.

Ohio:—Thinks it desirable to collect a sufficient number of data to establish the history and nature of the laws.

Wisconsin:—Don't think it would be practicable to collect details.

Maryland:—Thinks that historical data should be collected and sets forth the heads of subjects to be investigated historically.

INQUIRY 5.

"Is it practicable to collect books and documents," etc. *New York* answers negatively.

Maryland does not think it practicable.

INQUIRY 6.

"Is it desirable to have a wide discussion on the practical as contradistinguished from the historical side of vaccination?"

New York thinks it would not be profitable.

Maryland thinks it would if judiciously done, etc.

New Jersey thinks discussion will be desultory.

North Carolina thinks it not well. The well informed would agree, but the erratic might make it a time to air hobbies of anti-vaccination.

INQUIRY 7.

"From your acquaintance with medical gentlemen of your State, what is the best method of engaging their hearty cooperation?"

Kansas:—"By personal application and through local State Societies they will all cooperate mildly. Give one charge of the work, with power to appoint assistants."

Delaware "thinks through local societies."

Iowa:—State Medical Society is an active body. He knows of no experts in Iowa. Knows a hundred scientific physicians who would give their experience.

Kansas:—No available statistics. Give one person charge.

Missouri thinks the general profession will take little interest in it. Facts can only be had by enlisting clerks of Boards of Health and engaging the interest of secretaries of reputable vaccinologists.

New Hampshire.—Very little information outside of the brief history of introduction could be obtained from New Hampshire. No one has given special attention.

Michigan.—"Has an impression that the Committee does not need the cooperation of the practitioners in general of that State, but the careful painstaking of the few, perhaps not more than one or two in each State."

Indiana.—"There would be an uncertain amount of good material obtained through the State Medical Society; best results would be obtained by submitting it to the consideration of County Societies through State Societies. He knows of no expert in Indiana. Best results would be obtained by committing the affairs in each State and Territory to one competent person, who would work under a plan formulated by a chief."

New Hampshire.—By circular letters submitted to such members of the profession as would be most likely to be interested and render active assistance.

Alabama.—"The State Board of Health of Alabama is the proper source from which to gather all necessary matter."

New York.—"I would deal with individuals and not with societies, to one man in each State; in New York to the Surgeon General of the State."

New Jersey.—Knows of no man who could be called an expert, but selection could be made by the State Medical Society of the best persons for the purpose.

INQUIRY 8.

"Where County Medical Societies exist should they in every case be applied to for aid?"

This query is answered mostly under 7th inquiry.

INQUIRY 9.

"Would it be expedient and desirable to have lodged with the Chairman of the General Centennial Committee the power to appoint one or more reputable physicians as a committee in such counties to furnish the desired information."

North Carolina.—It would be best to invest a Central Committee with the function of making selections of the fittest men for the work by consultation with the State, county, city medical organizations and with medical librarians, or others acquainted with acquirements of medical scholars.

New York.—Thinks data would be useless, therefore does not advise means to collect them.

Indiana.—"The Chairman in chief of the General Committee should be empowered to make appointments such as alluded to in this inquiry and should also be authorized to delegate this power of appointment to others where in his judgment it would further the purpose of the undertaking."

Connecticut.—"Give the Chairman of the General Committee power."

Missouri.—"Believes that power to appoint should be vested in the general chairman."

Alabama.—Would suggest the appointment of one man in each State and allow him to exercise his own preference in gathering data; and the State reporter could draw upon any physician he wishes as an individual.

Kansas.—The general subject is put in the hands of Centennial Committee. It is impracticable to have meetings; is entirely willing to impose upon the Chairman such members as he may call to his assistance.

New Hampshire.—Let the men appointed to read papers do it entirely in their own way, and let them be responsible for their work.

Delaware.—"Where there are no societies the duty might fall on health boards, college faculties, or eminent members of the profession."

Iowa.—In the event of no societies, he would call on individuals.

Pennsylvania.—Would give Chairman of Centennial Committee power to act, adopting any means he sees fit to collect information from any State or territory.

Virginia.—Better to leave the appointment of the best men for the work to a State Committee or State Medical Society.

Florida.—Think it would be well to leave it to Chairman of Centennial Committee to appoint.

Massachusetts.—It would be best to leave to Centennial Committee Chairman.

Ohio.—Let the Centennial Committee appoint in each State and territory a State Committee of three and where there is a State Medical Society appoint the Secretary or President of Society a member of this committee. Let the State Committee appoint a committee of three in each county, and where a county society exists appoint the President or Secretary a member of the committee, etc., etc.

THE JENNER CENTENNIAL COMMITTEE.

Drs. J. M. Toner, Washington; C. H. Franklin, Union Springs, Fla.; P. O. Hooper, Little Rock, Ark.; G. G. Tyrell, Sacramento, Cal.; P. W. Carlin, Denver, Col.; C. A. Lindsley, New Haven, Conn.; F. P. Kenyon, Fargo, Dak.; W. B. Reynolds, Wilmington, Del.; J. P. Wall, Tampa, Fla.; Eugene Foster, Augusta, Ga.; J. H. Rauch, Springfield, Ill.; J. F. Hibbard, Richmond, Ind.; W. F. Peck, Davenport, Iowa; W. L. Schenck, Osage City, Kan.; J. N. McCormick, Bowling Green, Ky.; Joseph Jones, New Orleans; F. H. Gerrish, Portland, Me.; J. R. Quinan, Baltimore, Md.; S. C. Martin, Boston, Mass.; H. B. Baker, Lansing, Mich.; Perry H. Millard, St. Paul, Minn.; Wirt Johnson, Jackson, Miss.; W. A. Hardaway, St. Louis; W. C. Bryant, Omaha, Neb.; G. P. Conn, Concord, N. H.; Ezra M. Hunt, Trenton, N. J.; J. P. Kaster, Albuquerque, N. M.; F. P. Foster, New York, N. Y.; Thos. F. Wood, Wilmington, N. C.; C. O. Probst, Columbus, O.; W. D. Baker, Astoria, Ore.; W. H. Welch, Philadelphia; G. D. Hersey, Providence, R. I.; H. D. Fraser, Charleston, S. C.; F. L. Sim, Memphis, Tenn.; S. D. Thronston, Dallas, Tex.; F. H. Bascom, Salt Lake City, Utah; H. D. Halton, Battleborough, Vt.; L. B. Edwards, Richmond, Va.; N. F. Essig, Spokane Falls, Wash.; C. T. Richardson, Charleston, W. Va.; B. O. Reynolds, Lake Geneva, Wis.; Chas. Smart, U. S. A., Washington, D. C.; J. W. Ross, U. S. N., Pensacola, Fla.; Walter Wyman, U. S. M.-H. S., Washington, D. C.

Committee from American Public Health Association.

OUTLINE OF CONCLUSIONS FROM THE WHOLE MASS OF REPORTS.

1. The members of the committee are nearly unanimous in their opinion as to the appropriateness of the celebration of the centennial of Jenner's discovery. 2. That the celebration should embrace the collection of historical and statistical reports with a proper eulogy of Jenner and his work. 3. As to the scope and extent of the inquiries desirable to make there was some diversity of views, and some difference of opinion as to the value of the collective reports when made. 4. As to the effort to collect as far as possible all the facts relating to the history of vaccination in our country by forming committees in State and county societies, it was the general opinion it would be impracticable to embrace the minutiae of the past and present of vaccination. 5. The practicability of collecting books, documents, etc., pertaining to vaccination was answered by nearly all negatively. 6. As to the desirability of having a discussion on the practical as contra-dis-

tinguished from the historical side of vaccination, it was generally conceded that it would not be profitable. 7. As to the prospects of obtaining material through local and State societies, the question was answered affirmatively or negatively, according to the activity of the societies in the locality in which the reporter lived. 8. Should county societies be applied to for information where they exist is answered mostly in the previous enquiries. 9. Most of the committee were of the opinion that to the Chairman of the Centennial Committee should be left the appointment of the man or men, and devise the plan for the general work of the preparation for the centennial.

It was deemed proper, therefore, after this consensus of opinion as to the feasibility and propriety of celebrating the centennial of the discovery of vaccination by Jenner, to set apart the *14th day of May, 1896*, for the proper commemoration of the life work of Jenner, and signalize the immense gift which vaccination has been to the human family by the presentation of an eulogy of the great discoverer, and by the reading of specially prepared papers on the history of introduction, statistics, practice of vaccination, propagation of vaccine virus, and such other topics as may be selected by the committee.

In order to carry out this design, it is hereby recommended: 1. That the meeting of the American Medical Association be so timed, if possible, as to include the 14th day of May. 2. That the Central Committee on the Centennial Celebration should make such selections of persons, through the assistance of State, county, and city medical societies, medical college and medical and other librarians, as to constitute a corps of collaborators to work under the general guidance of the Committee. 3. That this Committee should select an eulogist, to deliver such a tribute to the life and work of Jenner as would be suited to a popular audience. 4. That an editor and compiler should be chosen by the Committee from the expert vaccinologists in the United States, upon whom shall devolve the work of digesting, compiling and preparing all the collected material, and that all the literary and scientific part of the work shall be under his direction. 5. That such material as the Committee deemed best should be collected and printed in a sumptuous volume, with appropriate illustrations. 6. That the editor and compiler should be allowed a clerk for such part of the time as he may be needed, not to exceed \$200 a year. 7. That all the preparation of the details of the celebration should be under the management of the Central Committee or their successors.

In presenting this provisional outline of the plan for the celebration proposed, the Committee desires to impress the Association with the greatness of the undertaking, and bespeak the hearty

coöperation of every organized society represented in this body. Your Committee would add, that the American Public Health Association, by formal resolution at their meeting last December, in Charleston, selected a committee to confer with this Association upon the proper plan for the celebration of the great event.

NEW INSTRUMENTS.

AN AUTOMATIC TUNING-FORK HAMMER.

BY S. S. BISHOP, M.D.,
OF CHICAGO.

The automatic tuning-fork hammer shown in the cut is for the purpose of making the fork as accurate an instrument for testing the hearing as the watch is, and especially for use in those cases where the watch is useless.

The hammer and operating springs can be attached to any large fork an aurist may happen to have. The hammer-head is made of soft rubber, so as not to require too large a room for its use.

In determining the hearing distance the same rules are observed as in using the watch. The ear is gradually approached from a distance, with the fork vibrating, until the patient, with eyes closed, signifies that he hears it. This experiment is repeated until we find by measurement the exact distance at which he hears it each time. Every time a sound is produced the hammer-handle should be pressed down to touch the fork-handle, so that, as it is allowed to slip from under the pressing thumb or finger, the hammer-head strikes the fork with an unvarying blow.

One of my forks can be heard 8 feet in a quiet room. I refer now to the musical note. The other sound that always accompanies a blow, and which we will call the dull percussion sound, can be heard in the same place 16 feet by a normal ear.

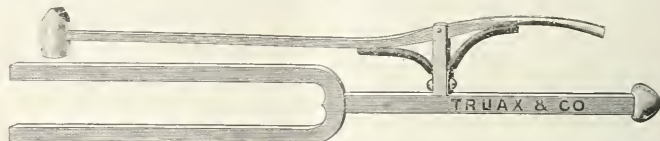
Taking this as an example in one of those numerous cases in which the watch cannot be heard, if the musical note can be perceived at 30 inches, we can express the hearing distance approximately correctly by the fraction $\frac{1}{300}$, or 30 per centum of the normal, showing a loss of 70 per centum.

There are not a few instances in which I have found no perception of the musical note, except on contact of the fork with the mastoid process, when the dull percussion sound was distinctly heard at a certain distance. This distance is easily ascertained by causing the patient to keep his eyes closed during the test, and to raise the hand at every stroke of the hammer he hears.

The proportion of hearing power lost and finally regained can be accurately determined by these

careful experiments. They eliminate the inaccuracies of the ever-varying quantity and quality of sounds emitted by the ordinary fork when struck on objects of differing density with varying degrees of force.

It is impracticable to record unerringly the



hearing distance by means of the voice. The watch-sounds are often not perceived at all, and the best instrument of precision for this purpose is the tuning-fork, so constructed as to produce sounds of unvarying volume and pitch.

In devising this acoumeter I do not claim for it any new principle—simply the practical application of very old ones to convert an uncertain instrument of diagnosis into an accurately reliable one.

After considerable experimenting with different materials and devices, and after using these forks in clinical work for some time, I have come to look upon them as indispensable for precision in aural practice.

They are made by Charles Truax, Greene & Co., of Chicago.

TOPICS OF THE WEEK.

ARE ANATOMY AND PHYSIOLOGY LIBERAL STUDIES?

At a recent meeting of the Board of Overseers of Harvard College a supplementary report of the Special Committee on Changes in the Academic Department and in its relations to the professional schools, was under consideration, and certain propositions offered by this Committee were voted on. Two of these propositions especially concerned medical education, namely:

That the Board of Overseers recommends the modification of the present Regulations of the College Faculty in accordance with the following proposition:

That a Senior intending to enter the Medical School and to take the full four-years' course therein may, under proper supervision, include in the requirements for the degree of Bachelor of Arts the courses on physiology and anatomy required in the first year of the Medical School, each of said courses to count as one full elective course.

That, in the opinion of the Board of Overseers, it is advisable that the Faculty facilitate the attainment of the degree of Bachelor of Arts, upon petition, in less time than four years, especially by those students intending to take professional or graduate courses of study, by any means which do not involve either a reduction in the number or difficulty of the courses required for the degree, or an undue hurrying of the students' work.

Both of these propositions were rejected by the Overseers, the former by a vote of five to eighteen, the President of the University voting in the negative, and the latter by a similar vote, the President voting in the affirmative.

It is not the province of this Journal to question whether these proposals were voted upon strictly on their merits by the Overseers, or whether, owing to their relation to other proposals, regarded by some as kindred, they shared a common fate. It is, however, legitimate for us to speculate whether such a vote fairly represents the tendency of thoughtful sentiment to-day among college-bred men and among our educated communities, in

regard to professional studies and professional schools. We find it difficult to believe that it does.

The present relation of professional studies, and especially of medical studies, to an academic course, is concisely given in a short article entitled: "Is the Study of Medicine a Liberal Education?" by Prof. D. W. Cheever, of the Harvard Medical School, published in our last issue. It is very difficult to comprehend the mental attitude of one who, in the latter part of the nineteenth century, is unable to regard such studies as anatomy, physiology, or constitutional law as, in the widest acceptance of the term, "liberal" studies. Latin, Greek, Mathematics and Hebrew may equally be regarded as "bread and butter" studies for men who become teachers or clergymen. Chemistry and Physics and Political Economy are certainly such studies for a large number, if measured by any "illiberal" estimate.

The truth is, some way must be found to lengthen rather than to shorten professional education, and especially medical education. The medical graduate with an academic degree is already too old, and it is plain that if young men cannot be liberally educated on such studies as those we have mentioned, many of them, if modern social life follows its present directions, must be illiberally educated without some of those studies which have hitherto claimed the title of "liberal" by right of inheritance.—*Boston Med. and Surg. Journal*.

THE INFLUENZA OF 1890 AND A DEPRESSED TONE OF HUMAN VITALITY.

In our Edinburgh correspondent's notes last week interesting extracts were given from the report submitted by Dr. Clouston upon the Royal Edinburgh Asylum for the past year. They had reference more especially to some evidence produced by Dr. Clouston as to the existence of an exceptionally low tone of human vitality during the year 1890, in relation to the epidemic of influenza. Whether it was the influenza in the early part of the year that had perceptibly lowered human vitality, or whether the prevalence of the influenza merely showed that European humanity was in a lowered state of vitality, so being a fit nidus for the influenza germs to propagate in, or whether it was the sunless, summerless general character of the year, Dr. Clouston could not not say. He distinctly connected, however, the influenza in some way with the unprecedented number of melancholic patients sent to Morningside Asylum. He goes on to say, and we think with truth, that he believes the epidemic of influenza left the European world's nerves and spirits in a far worse state than it found them, and that they scarcely yet had recovered their normal tone. Many others have expressed themselves in the same sense, and we look upon the subject as one of deep interest. An excellent opportunity will be given our asylum superintendents, at this season of preparation of their annual reports, to confirm or otherwise this expression of opinion on the part of Dr. Clouston.—*Lancet*.

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, JUNE 20, 1891.

THE PROVINCE OF WOMAN IN MEDICINE.

MR. LAWSON TAIT is reported to have said: "For the greater part of my life I have been engaged in the study of and practice amongst the special diseases of women, and no conclusion is more firmly rooted in my mind than a devout thankfulness that I belong to the other sex." "From the cradle to puberty they seem to be on fairly equal terms with men, but from that moment, through the whole of the period of active life, their existence is one of prolonged suffering." "The great function of their lives is led up to by troubles, and from it endless suffering springs."

Such a view—and such expressions—from one whose life work has made him so thoroughly acquainted with the subject of the sexual characteristics of the female, must receive the consideration which is its due, and from it may be drawn conclusions and arguments which a less authoritative basis might render fallacious, or, in given directions, sentimental.

Although we do not propose to enter into this subject from the many different points of study it clearly permits, and which would quite fill a volume—yet there is one medical aspect to which the professional mind may briefly turn, and which constitutes one of the living topics of the hour, namely, woman in medicine.

Two arguments, based upon LAWSON TAIT's exposition, at once present themselves: 1. Can an unfortunate, pain-afflicted woman ever occupy a sphere of unquestioned usefulness in medicine,

where physical and mental vigor, fortitude, and endurance are eminently requisite, and where the strong must help the weak, help them by virtue of their strength, to healthier and stronger states? or, 2. Can the power of sympathy—operating from the intelligence of affliction, and the possible comfort of relief—together with knowledge and discrimination, pass from a medical woman to her suffering sex with a probability of extenuating their distress equally as great as would maintain under the fulness of power mentioned in the first proposition?

Such is the question, the argument of which has been before the medical profession for some time, but the solution of which may not be said to have as yet been reached.

This much remains clear, however, woman has yet to achieve any greatness in the ranks of medicine, and if such is to be her future portion it must be in the direction of relief to her own sex. She must become a LAWSON TAIT, a SPENCER WELLS, a BATTEY, THOMAS, PRICE; or if that be impossible, under the outlines of the first great general question, and the conclusions of LAWSON TAIT, then must she rest, in the unsought weakness of her nature, as a follower of man, and under the privilege of that sympathy which, if properly fortified, may reach, if not greatness, that degree of usefulness the medical world cannot, with reason, gainsay.

THE RELATION OF THE COLUMBIAN EXPOSITION TO THE MEDICAL PROFESSION;

Or it might better be said: The value and opportunities afforded by the World's Fair to the profession of medicine. It amounts to quite the same, however, whichever way it is put.

Physicians from all points of the compass, and from the most remote corners of the earth, will be attracted to the United States, to the City of Chicago, to the home of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

These facts force thoughts of the vast opportunities thus offered for the realization of many long-expressed desires, for the establishment of needed reforms, and for the opening of those paths to a broader knowledge, and a closer touch of interests, which this day and age demands.

1. The proposed Pan-American Medical Congress. It is contemplated to hold this meeting

during the World's Fair, and from its success we may look for many important considerations, such, indeed, as a representative body of this nature may pertinently and wisely sit upon.

2. The untold advantages for personal improvement and a knowledge of the great advances made in all branches of the science of medicine. This will come from the exhibitions, from study, from contact with others, and from the proximate seats of learning which may be easily visited.

3. The teaching of the period, aside from the results already attained, and upon which the great future progress is to rest. Methods of medical teaching will be particularly interesting to foreigners, and many of our own older practitioners who have been secluded for years by the constraints of a rural constituency.

4. The scope, usefulness, and grand possibilities of the American Medical Association. A duty and an opportunity obviously rests here, which in due time will no doubt be developed and formulated.

5. The contact with fellow laborers from every clime, and the mutual good which follows the free interchange of views and experiences. This communion of thought is the bulwark of our science, and its strengthening, upon this occasion of the World's Fair, will not be without happy results.

In a brief notice we can only hope to generalize the advantages promised. From time to time, however, we trust to speak of progress in this direction, and to dwell more specifically upon matters *à propos*.

VESICAL NEOPLASMATA AND THEIR REMOVAL.

DR. GUYON, in the *Gazette des Hôpitaux*, reports a case of neoplasm of the bladder, in a male aged 30, and its removal by supra pubic operation. He presents some useful considerations in regard to the diagnosis and treatment of vesical tumors. Positive diagnosis by means of the endoscope should be considered of the first importance. The symptom of hæmaturia is inconclusive as an aid to the diagnosis of the size or character of the tumor, since a comparatively small papilloma will often give rise to a very considerable hæmorrhage. The supra-pubic operation seems to him to offer the best advantages in the ablation of tumors of this class. After the incision has been made and the tumor located

the latter should be seized by means of two hook-shaped forceps and brought into view as well as possible. The pedicle of the tumor excised along with a portion of the subjacent bladder wall. Dr. Guyon does not advocate the complete suturing of the bladder at the point of the supra-pubic wound, but favors the introduction of a drainage-tube at both ends of the incision and the suturing of the intervening portion. The writer has not found that the integrity of the resulting cicatrix is interfered with by this method of dealing with the surgical wound.

EDITORIAL NOTES AND ITEMS.

NEW EMERITUS PROFESSORS.—The intelligence was chronicled not long since of the cessation of the active labors of those two brilliant men in medicine, Drs. Bartholow and Da Costa, and now comes the news of tribute due them—election to emeritus professorships—under which, with greater leisure and unrestricted facilities, they may yet pursue those studies from which the world has derived much benefit.

INEBRIETY LEGALLY DISQUALIFIES THE PHYSICIAN.—The Secretary of the State Board of Health of Iowa announces that he is convinced that habitual drunkenness constitutes "palpable evidence of incompetency," as the law reads, and that therefore the physician bound by inebriety should be shorn of his certificate entitling him to practice in that State.

INFLUENZA IN ENGLAND.—This disease, which has been reprevailing throughout the British Islands, is now reported to be somewhat on the decline. The epidemic has been particularly severe and widespread, and as here, received much attention from the medical and lay press. Theories are advanced, and forms of treatment recommended; but there yet remains much to learn regarding this somewhat remarkable affection.

Late reports are that the disease is just touching certain points in France.

THE PRE-CONVULSIVE PERIOD IN PREGNANCY.—Dr. Everard H. Richardson, of Atlanta, Ga., declares (*Atlanta Medical and Surgical Journal*), the following rule: "In all cases of pregnancy, whenever albumin in the urine is persistently found in large quantities, with or without the

presence of any variety of casts, and not yielding promptly to treatment, *whenever decided symptoms of profound uræmia appear and continue unabated, then I unqualifiedly recommend and advise, as the safest course to be pursued in the interest of the mother, the induction of labor.*"

COUNTING TUBERCLE BACILLI.—In the last issue of the *Bulletin of Johns Hopkins Hospital*, G. H. F. Nuttall, M.D., gives an improved method for "the estimation of the actual number of tubercle bacilli in tuberculous sputum." The plan is illustrated and carefully worked out; the author maintaining: "With such organisms as the tubercle bacillus, this method will enable the experimenter to determine the number he is inoculating into an animal in a way that has not been possible hitherto. Inoculations under such conditions will clearly show the difference in degree of virulence possessed by various organisms. It will clear up any relation which may exist between the number of tubercle bacilli in sputum and the progress of the disease, and bring us a step nearer to solving the problem of the significance of involution and degeneration forms of bacteria."

NON-UNIFORMITY OF NUX VOMICA PREPARATIONS.—Recent assays of this important and very frequently used drug go to show that a wide degree of difference exists between the products of rival manufacturing chemists. This is a subject which deeply concerns every member of the profession, and should have early and effective attention.

Upon an examination of five different samples of commercial fluid extract of nux vomica an extractive difference of from 3 to 11 per cent. was found; while eight samples of the extract varied in alkaloidal strength between 15 and 24 per cent.

PROFITS IN FOOD-PRODUCTS.—It is frequently asserted that manufacturers of prepared foods reap enormous harvests. An instance of the truth of this statement is given in a recent issue of the *Medical Press*, which quotes the following figures in regard to the Liebig's Extract of Meat Company, of London. The annual production of extracts was not less than \$1,200,000 worth, and the shareholders received a 17.5 per cent. dividend for the year 1890. The *Press* states further that these articles of nutriment bearing the name of

Liebig have an exceptionally large consumption in Great Britain and constitute an important item in the dietetics of the sick-room and the nursery.

INSTALLED.—Prof. J. B. Hamilton, who, conjointly with Prof. Nicholas Senn, is to occupy the Chair of Surgery at Rush Medical College, Chicago, was introduced by his honored confrère, Prof. Senn, to a mixed audience of professors, practitioners, and students at the Surgical Clinic of Saturday, June 13.

Prof. Hamilton enters a large and well-organized clinic, and the lustre it already holds will scarcely suffer at the hands of the two distinguished surgeons who will hereafter have its care.

New York Academy of Medicine.

SECTION ON ORTHOPÆDIC SURGERY.

Stated Meeting May 15, 1891.

SAMUEL KETCH, M.D., CHAIRMAN.

(Continued from page 860.)

WHEN SHALL WE DISCONTINUE MECHANICAL TREATMENT IN HIP-JOINT DISEASE? WITH REMARKS ON THE SYMPTOMS AND TREATMENT.

The paper of the evening, bearing the above title, was read by DR. NEWTON M. SHAFFER.

The writer called attention to the difficulty which often existed in deciding this question, and entered a strong protest against the use of an anæsthetic as an aid in reaching a conclusion. Ether, it was claimed, would remove the reflex muscular protection of the joint in osteitic disease, and with Nature's protection removed, undue traumatism might be inflicted, and under the influence of this traumatism, encysted tubercular material might be broken up, and a fresh infection occur. He recognized the fact that tubercular disease must run a long course, and he had long since ceased to expect any "short cut" in the treatment of these conditions. Scientific mechanical treatment places the joint under the best local conditions for repair, and aids Nature, by climatic and other influences, in reaching the period of self-limitation, but after disintegration of the joint had once occurred, there was no apparatus that would cure hip disease, any more than a splint would cure a fractured thigh. Reference was made to the report by Dr. Lovett and the author on "The Ultimate Results of the Mechanical Treatment in Hip-joint Diseases," published in 1887. Notwithstanding the great care exercised, and the four years' limit which governed the investiga-

tion of the cases reported upon, there had been several relapses.

Attention was then called to the fact that many surgeons ignore the neuro-muscular symptoms of hip joint disease, and to the fact that the anaesthesia removes the true reflex muscular spasm; that the absence of pain was not a safe criterion; that the absence of abscess afforded no positive evidence of the cessation of the disease; and that the patient could stand a very severe concussion of the joint without pain or flinching, and yet be suffering from extensive and progressive tubercular disease; that abscesses and sinuses might exist (unconnected with the joint), and yet the patient be free from the necessity of mechanical treatment; and that sinuses might close, and abscesses disappear, with active disease present.

The author then stated that only two elements existed upon which a positive opinion could be based, viz.: 1, the gait and attitude of the patient; and 2, the character of the resistance to joint motion thus obtained. He divided the limp into three classes: 1, the limp of true disease; 2, the limp of a vulnerable joint in the convalescent stage; and 3, the limp of shortening and disease—all of which were described.

The important element, however, was the neuro-muscular protection of the articulation. He described it as a purely involuntary and instinctive effort on the part of Nature to prevent traumatism. Without this element present, we are unable, as a rule, to make a diagnosis of hip disease, and if it were not present, there would be no deformity. The mechanical treatment should be directed not only to the deformity, but to the disease, and the necessity of controlling the knee was pointed out. The author's experience led him to advise the use of the old Taylor traction splint, with the rigid pelvic band, and double perineal pad, in securing the proper modification of traumatism at the hip, and in controlling the knee; and he spoke rather disparagingly of any splint in the stage of convalescence which permitted motion at the knee. He also stated that we need not fear the effect of prolonged mechanical treatment as much as the unheeded cry of the diseased joint for proper protection.

The following conditions contraindicated the removal of the apparatus: If manual concussion produces pain or flinching; if there is considerable deformity without ankylosis; if there is a true joint limp, or if there are abscesses or sinuses connected with the joint; or if there is a true reflex muscular spasm limiting movement slightly in all directions; if there is almost perfect flexion, with the other movements considerably or markedly limited; if flexion and abduction and adduction are excellent, with rotation and extension limited; and finally, if all the movements are nearly normal except rotation inward during flexion (the limitations being due to the neuro-

muscular protection), it is not safe to discontinue mechanical protection. Rotation inward during flexion is always the last motion to recover, and this may remain for several years after all the other signs have disappeared, and in many cases it still remains after the joint had recovered; but in the latter case, its reflex character disappears.

Attention was called to the fact that after the limp had entirely disappeared, a relapse may occur. A recent case occurring at St. Luke's Hospital, was cited as an example. From this and other similar cases, the author draws the conclusion that there is a recognizable stage of hip-joint disease which antedates the limping stage.

Excising the joint was then referred to, and the conclusion reached that, in the absence of signs and symptoms by which we can exactly determine the extent of the lesion, and with the great difficulty, not to say impossibility, of a complete excision of the acetabular portion of the joint, excision was an unsatisfactory, and in many cases an unsafe operation, and that mechanical treatment, while more difficult, and requiring more special training to make it successful, promised more satisfactory results, both as to life and the usefulness of the affected member.

The conclusions were as follows:

In the first apparent stage of tubercular disease of the hip-joint, when there is no deformity present, and where we have only the neuro-muscular signs or the slight limp, or both, to guide us, as well as in the more severe forms of the disease, where tubercular disintegration of the joint had commenced, and when the muscular protection of the articulation is more pronounced, the only safe guides for discontinuing mechanical treatment are: 1, the absence of the expressive attitude and gait of tubercular osteitis of the hip-joint; and 2, an essential modification or an abolition of the neuro-muscular protection of the articulation; 3, that in all but exceptional cases, a relapse as to the deformity, or the disease, or both, is likely to occur as the result of the traumatism of locomotion, unless proper mechanical protection is maintained until the articulation is free from true reflex muscular spasm, or is ankylosed.

Dr. A. B. JUDSON shared in the general wish for more certain indications in the convalescent period. He agreed with Dr. Shaffer in thinking that the reflex or neuro-muscular signs are by far the most valuable indications of the condition of the joint. He never resorted to the use of ether in examining the joint, or to the more atrocious barbarism of striking the patient's heel till pain is produced. A patient of his had described the sensation of reflex action by saying that it resembles the general sensation felt in a swing when the descent from the highest point begins.

As but few of the superficial muscles are found by palpation to be contracted, he thought it likely that the intrinsic muscles, those beyond the reach

of palpation, are chiefly affected, and suggested that probably the muscles exhibiting these phenomena are those which, like the adductors, have their origin and insertion in the bones which enter directly into the composition of the joint. The patient or the mother is sometimes alarmed by the discovery of the rigid adductor muscle, which is thought to be a morbid growth, or an abnormal bone, till it is shown that a similar thing is produced on the well side, when an effort is made which throws the adductors of that side into tonic contraction.

He thought it well to note the variety of these reflexes. Fixation of the joint is produced by a tonic contraction, but motion, especially in the early and convalescing periods, is asserted at a varying point, when a considerable arc has been traversed, by a muscular spasm often recognized by the patient. Dr. Fayette Taylor, observing with still greater refinement, had classed "reluctance to relax," shown by the circumarticular muscles, among the reflex signs of incipient osteitis.

DR. R. H. SAYRE said that if the signs of reflex spasm continued, there was but little doubt that an unprotected joint would become deformed. An experimental removal of the apparatus seemed to be the only way of deciding about discontinuing mechanical treatment. It was true, that the late Mr. Thomas said that any one who could not tell the day and hour when the disease stopped, ought not to treat joint diseases; but his remarkable insight would appear to be quite exceptional. The existence of internal rotation and flexion he did not consider to be so significant as the author stated, for a hip which recovered with impaired motion was not necessarily a vulnerable one. It was highly important to distinguish carefully between the limitation of motion resulting from a deposit around the joint, and that due to reflex spasm. In the former, there was not likely to be any damage to the joint from the removal of protecting apparatus.

DR. WHITMAN thought the case cited in the paper, which proved fatal as a result of prolonged suppuration, should have been treated by excision, for he had seen a number of apparently hopeless cases of this kind recover after such an operation.

DR. H. W. BERG thought that reflex muscular spasm was an unconscious as well as a conservative effort of nature, and therefore he could not understand how a description could be given by Dr. Judson's patient of the sensation produced by this spasm.

DR. JUDSON replied that the reflex action in question, when spasmodic, resembles the ordinary reflexes, such as respiration and micturition, in being recognizable by the patient.

DR. MYERS said that the case at St. Luke's Hospital, referred to, had been examined repeat-

edly for six weeks after all pain, deformity, and limp had disappeared, and the reflex muscular spasm was always detected. He had found the suggestion of Dr. Shaffer to carefully avoid outward rotation during flexion tests, a very practical and valuable one, had also noted that the same care should be used in testing abduction to avoid outward rotation, as the reflex muscular spasm at times could only be detected at the very extremes of motion. Dr. Myers said that during his observation of hip-joint disease under the tuberculin treatment at St. Luke's Hospital, he had made daily careful examinations, and had come to the conclusion that the reflex muscular spasm was the first symptom affected. In the more marked cases, the symptoms, though lasting but a few days, exactly resembled the usual exacerbation of the disease, with increase of reflex spasm, less motion, or even deformity, increase of pain, and sensitiveness, and recurrence of night cries. In less marked reactions, several times the reflex muscular spasm became more alert though there was no rise of temperature, nor appreciable increase of joint sensitiveness, or decrease of motion. He believed with the reader of the paper, that this spasm was the first and last symptom in hip-joint disease. The tubercular process he thought was self-limited, and therefore, the indication to avoid traumatic reinfection was imperative.

DR. SAMUEL LLOYD referred to a case of hip-joint disease, which he had had under observation, in which there was a recurrence after a period of nearly nine years. The proper time for the removal of apparatus could only be determined by experiment in each case. Lately, he had been endeavoring to assist the mechanical treatment of suppurative cases, by injecting a ten per cent. emulsion of iodoform in glycerine, and the results so far had been quite beneficial.

THE CHAIRMAN thought that the question of the self-limitation of tubercular disease would account very satisfactorily for the varying results obtained in the removal of apparatus. The only absolutely reliable guide was the existence of reflex muscular spasm, and although he had studied this symptom carefully for many years, he was compelled to admit that in a certain proportion of cases, it was very easily confounded with the mechanical resistance resulting from changes about the joint. The cases of so-called relapse, he was inclined to consider as a development of new foci of the disease.

He had been interested in the author's remarks about the fallaciousness of the other test, and the useless traumatism often inflicted upon joints by improper manipulation and examination.

DR. SHAFFER, in closing the discussion, said with reference to the sensations of the patient resulting from reflex spasm, that as long ago as 1876, a very intelligent gentleman had compared

this seclusion to that experienced upon attempting to dodge a blow aimed at the stomach. The intrinsic muscular element would not explain the phenomena of reflex spasm, as was shown in knee joint disease, where the gastrocnemius muscle resists attempts at moving the knee joint, but allows of motion at the ankle joint. He believed that reflex spasm required for its development a peculiar specific irritation within the joint, probably of the nerves in the epiphysis. The very fact that this spasm is beyond the control of the patient's will renders it such a reliable guide in diagnosis and in deciding when to remove the apparatus. As regards the question of excision in the case referred to, he had not presented the full history of the case, and consequently had omitted to say that the father absolutely refused to give his consent to this operation. He thought all orthopedic surgeons recognized the self-limitation of tubercular disease, especially since the able paper published some years ago by Dr. Austin Flint. With regard to relapses, he felt that the traumatism of locomotion was sufficient in many cases to destroy the encysted condition of the tuberculous deposit about the joint, and hence, to produce a fresh infection with tubercular material of the vulnerable tissues in the capsule.

IRON CASTS AND COAPTATION SPLINTS.

DR. WHITMAN spoke of the advantage of employing iron splints in cases, particularly about the feet, where perfect opposition is desirable. A rough cast of the part is taken in plaster of Paris, and sent to the iron founder, who produces an iron cast at an average cost of one dollar. On this cast, very light metal splints can be readily and accurately moulded.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

(Concluded from page 664.)

Dr. S. E. Milliken read a paper on "Treatment of Hydrocele by Carbolic Injection, versus the Radical Operation," in which he said that the objection to cutting operations such as Volkman's was, that although they were usually successful in relieving the hydrocele, they necessitated the use of an anæsthetic and confinement to bed for a week or more if suppuration occurred. On the other hand, the method of Levis by carbolic injection was practically painless, confinement to bed was in no sense essential, and unless an inordinate amount of carbolic acid (more than 30 minims) was used, sloughing ought never to occur. When from 5 to 25 minims of pure carbolic acid dissolved in an equal quantity of glycerine was distributed over the whole serous surface (2 or 3 minims in each place), nothing more than a sense of warmth was experienced by the patient. Of 54 cases thus treated by Dr. Milliken, 9 were never seen after the first injection, 5 paid one visit within the first week only, and 4 are

present under observation. All the remaining 36 could be set down as completely cured; and of these, 27 had one injection, 4 had two injections, and 5 had three injections. In no case did sloughing occur, and not one of the patients lost more than 24 hours from business.

In the case of laboring men he generally made the injection on Saturday afternoon, so that the patient could go to his work, as usual, on Monday morning. From his experience he had reached the following conclusions:

1. Carbolic injection is a safe method for the cure of hydrocele.
2. It is practically painless.
3. The patient can attend to business without more than one day's delay.
4. The disagreeable effects of an anæsthetic are avoided.

In the discussion on the paper Dr. John Murphy spoke of a case he had seen in which he believed that fatal carbolic poisoning resulted from injection of a hydrocele. He did not, however, know the quantity of carbolic acid which had been injected, and the evidence which he presented that death was due to this cause was not regarded as conclusive by those present. Dr. Wm. R. Ballou referred to the bad effects sometimes observed from the injection of iodine, and Dr. Milliken said that in using iodine he should not be so much afraid of the sloughing liable to be caused by it as of iodine poisoning. As regards the injection of carbolic acid he preferred to use 10 to 20 minims, and repeat the injection a second or even a third time, if necessary, rather than to use a large quantity a single time. In cases where the trouble returned it was always noticeable that the hydrocele was never as large as it had been originally.

Dr. Wm. R. Ballou read a paper on "Acute Prostatitis and Prostatic Abscess," in which he stated that in one thousand cases of urethritis in various stages seen by him in hospital and dispensary practice during the past five years, he had observed only three cases of prostatitis resulting in an abscess of the gland, though many that were of a milder grade. After describing the pathology, symptoms, and treatment of prostatitis he gave the notes of the three cases of abscess referred to. In one the abscess had discharged spontaneously into the rectum before the patient came under observation; in another it was tapped with a trocar through the rectum; and in the third, an incision was made from the rectum after the introduction of a Sims rectal speculum. Even if fluctuation were not distinct, Dr. Ballou advised a free and deep perineal or rectal incision in case abscess were suspected. The President thought that in the earlier stages it was preferable to make the perineal rather than the rectal incision, on account of the danger, with the latter, of the opening remaining permanently, and also of infiltration of the tissues. If, however, the case were seen later, and the abscess was evidently pointing towards the rectum he said he would perform rectal incision. He regarded the passage of a metallic instrument into the bladder with the idea of causing rupture of the abscess into the urethra as a dangerous and unjustifiable procedure.

Incidentally in his paper Dr. Ballou had referred to the local use of weak solutions of permanganate of potas-

sium in the treatment of acute urethritis; and in reply to a question from one of the Fellows he now stated that he was in the habit of prescribing at first bi-hourly injections of permanganate solution of the strength of one-eighth to one-tenth of a grain to the ounce of distilled water; two syringe-fulls being used at each injection. Internally he generally gave some alkali, and if the trouble were deep-seated, hyoscyamus in addition. After from four to eight days the permanganate was increased to one-sixth of a grain to the ounce, and sulphate or acetate of zinc (one grain to the ounce) was added to the injection. This treatment had proved extremely satisfactory, and he constantly employed it. Dr. McCollom having objected that such weak solutions of permanganate were hardly germicidal, Dr. Ballou replied that he did not believe that the gonococcus was regarded as of quite as much importance at the present time as it had been formerly.

Dr. H. W. Mitchell read a paper on "Practical Results of the Operation for Lacerated Cervix Uteri." While the operation of trachelorrhaphy, he said, was aimed primarily to restore the contour of the cervix, its most important and highest object was to insure its future usefulness in performing its normal functions. With proper attention on the part of the surgeon, healing by primary union could almost invariably be secured, and in 200 operations performed by him this was the result in all but two, where the healing took place by granulation. Of these 200 cases he had been able to follow up 21 in which subsequent confinements had taken place, all of which were personally attended by himself; and of these 21 cases, eight had had more than one subsequent confinement. All were of a severe form of laceration and in seven there was laceration of the perineum in addition. Relaceration of the cervix during subsequent labors occurred in only two of the cases, and in both it was so very slight as not to impair the usefulness of the cervix or render a second operation necessary. Judging from these cases, he thought he could say with truth that the operation in question was proper and successful and accomplished the following results:

1. Diminish the pain and irritation following upon such a distressing lesion.
2. Relieve the sense of bearing down.
3. Cure the exhausting leucorrhœal discharge, restore the parts to their normal condition, and, above all, restore the cervix so that future pregnancies and labors will take place in a natural manner and without a relaceration calling for the repetition of the procedure.

Dr. T. J. McGillicuddy then read two short papers, one on "Objections to Ordinary Axis-traction," and the other on the "Advantages of the Anti-craniotomy Forceps over Version in Pelvic Deformities," in connection with which he exhibited the admirable axis-traction forceps and the "anti-craniotomy" forceps which he presented in the Obstetrical Section of the American Medical Association at the recent meeting in Washington. The latter, he said, was not a cephalotribe or cranioclast, but a conservative, life-saving forceps, to be used in cases of considerable pelvic deformity. With the axis-traction handles, one could determine the exact amount of resis-

tance and the proper amount of force to use, and could readily use it. He believes that when this instrument cannot deliver a living child, there is no other operative alternative but Cæsarean section, as he does not consider craniotomy in the living foetus justifiable.

The last paper was by Dr. Reginald H. Sayre, and it was devoted to a case of "Obstinate Neuralgia following Fracture Relieved by Operation." The patient was a young man of 19, who between the ages of 5 and 13 suffered from three successive fractures of the right thigh in its upper third. After the third fracture the bones in which there had previously been straight union, united at an angle, causing a very marked curving of the thigh and between 2 and 3 inches of shortening; and there then resulted a constant neuralgia of the limb, which finally became so aggravated that he could not obtain any relief except from morphia, and so became addicted to the opium habit. The pain was the most intense at the point of greatest deformity, which was just in the line of the external cutaneous nerve. All remedies having failed in giving any permanent benefit, and several surgeons concurring in the opinion that there was a large exostosis pressing upon the vein, Dr. Sayre, on June 10, 1888, operated under antiseptic precautions. He found, to his surprise, that part of the vastus externus muscle was so twisted on itself as to turn at right angles to the long axis of the femur, but that there was no exostosis present, with the exception of a most minute point which could scarcely be considered abnormal, but which he nevertheless removed. He then passed his finger completely around the femur, stripping up the muscles for an extent of 2 or more inches; but failed to find any sharp projection, or anything else to account for the pain. Contrary to his anticipations under these circumstances, he found that the patient was completely cured by the operation of the neuralgia from which he had been suffering for six years, and which had resisted all kinds of treatment. On January 29, 1891, he received a letter from the patient, in which the latter stated that he still remained entirely free from pain, without the use of morphia or any other drug.

One of the points of interest in this case to which Dr. Sayre called attention, was the simulation of an exostosis by what was presumably a tense fibre of the fascia lata, which had become so much bound down as to press on the muscles of the thigh, and which, by girdling them, apparently caused the pain. He said he did not clearly understand how to account for the abolition of the pain. He did not consider the point of bone he removed large enough to have caused the trouble, and he did not think that when he passed his finger around the femur he tore loose any nerve fibres from the cicatrix. The explanation, he suspected, was to be found in the relief of tension given by splitting up the fascia lata, which certainly bound the muscles very tightly. The length of time that had elapsed since the operation (nearly three years), he thought was sufficient guarantee that the cure would be permanent, especially as the patient had been addicted to the opium habit, and he would undoubtedly have resumed the use of the drug if any return of pain had afforded him a pretext for so doing.

Dr. Squibb, the efficient and energetic Secretary of the Branch, to whose self-denying labors the marked success of its meetings ever since its organization has been to so large an extent due, was, of course, reflected to his old position.

During the last few months, the inhalation of vapor produced by the sublimation of calomel, according to the reports of the attending physicians, has proved a powerful auxiliary to intubation at the New York Foundling Asylum, and in some cases has apparently prevented the necessity of a resort to this procedure. Now, as soon as hoarseness is observed in a diphtheritic case in that institution, the child is placed in its crib, and a tent made over it about 3 feet in height, by means of a sheet stretched over sticks fastened to the corner posts. Placed in a wash bowl, below the feet of the child, an alcohol lamp is lighted, and over it, upon a dish, from 10 to 40 grs. of calomel are slowly vaporized. This is repeated every two to four hours, according to the urgency of the case. It is said that a Sister of Charity and nurses in the ward have been salivated by the fumes of the calomel; but, so far as known, none of the patients have been injured by it in the slightest degree. On the other hand, in some instances patients have recovered without tracheotomy or intubation, when, from the persistence of obstructive symptoms, it was highly probable that pseudo membrane had formed in the larynx. Dr. J. Lewis Smith, who is now on duty at the Foundling Asylum, states that since the vapor of calomel has been used in this way, the percentage of recoveries after intubation has been decidedly greater than was the case previous to its employment, and that when the next statistics are published from this institution, they will show very gratifying results.

P. B. F.

MISCELLANY.

GENEROUS GIFT TO TULANE UNIVERSITY.—MRS. T. G. RICHARDSON DONATES \$100,000 FOR A NEW BUILDING AT NEW ORLEANS. The medical department of Tulane University was made, June 13, the recipient of a generous donation from Mrs. Richardson, wife of that eminent physician and dean of the college, Dr. T. G. Richardson, of \$100,000. The entire donation is intended to be used in erecting a new college on Canal street, between Villere and Robertson, the site for which was bought a few days ago for \$35,000 by the Educational Board.

The faculty of the medical department of the university has selected Dr. Edmond Souchon, professor of anatomy and clinical surgery, as the representative of the faculty in the selection of the proper sort of building for the purpose intended. Dr. Souchon will leave in a few weeks for the North and East to examine various colleges to guide him in the selection of a building that will be best suited to the wants of the local institution.

DR. FORDVCE BARKER, of New York City, departed this life in the seventy third year of his age, after a short and overpowering seizure by apoplexy. His eminence as a teacher and author in the obstetric art has made his

name a familiar one on both sides of the Atlantic. He was one of the founders of the American Gynecological Society—and the first President—of the State Woman's Hospital and of Bellevue Hospital Medical College. His greatest service to the medical profession in recent years was seen in his long tenure of the office of President of the Academy of Medicine of New York, in which position his faithful labors resulted in the building up of a fund for a fireproof and attractive home for Medicine, not only for the metropolis, but free in many respects to the whole continent—a nucleus and intellectual centre of modernized medical thought. He was a persuasive and eloquent speaker, and despite his vocal insufficiency, was as welcome an orator before large audiences in foreign countries as he was before his own fellow-citizens. He was a tower of strength to every medical cause in which he became thoroughly enlisted.

MEDICO-LEGAL SOCIETY OF CHICAGO.—At the Annual Meeting held at the Grand Pacific Hotel, June 6th, Judge O. H. Horton, was unanimously elected President for the coming year; Dr. D. R. Brower, Vice-President; Dr. James Barry, Second Vice-President; Dr. Joseph Mattheson, Treasurer; Dr. Archibald Church, Secretary.

Dr. Henry M. Lyman, Dr. W. Franklin Coleman, Dr. A. H. H. H. and Dr. L. T. Potter were elected to active membership. ARCHIBALD CHURCH, M.D., Sec'y.
805 Pullman Building.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from June 6, 1891, to June 12, 1891.

Major Philip F. Harvey, Surgeon, leave of absence for seven days granted by order 96 c. s., Ft. Keogh, Mont., is extended fourteen days. Par. 2, S. O. 98, Dept. of Dakota, June 5, 1891.

Major Samuel M. Horton, Surgeon, leave of absence on surgeon's certificate of disability, granted in S. O. 49, March 4, 1891, from this office, is extended three months, on surgeon's certificate of disability. By direction of the Secretary of War. Par. 6, S. O. 129, A. G. O., June 4, 1891.

Lieut. Col. Charles T. Alexander, Surgeon, Attending Surgeon in New York City, is, in addition to his other duties, assigned to duty as examiner of recruits in that city. By direction of the Acting Secretary of War. Par. 21, S. O. 132, A. G. O., June 10, 1891.

Major Charles B. Byrne, Surgeon, granted leave of absence for fifteen days, to take effect on being relieved from duty at Ft. McHenry, Md. With the approval of the Acting Secretary of War. Par. 14, S. O. 130, A. G. O., June 8, 1891.

First Lieut. Freeman V. Walker, Asst. Surgeon, U. S. A., leave of absence for seven days granted by order 100 c. s., Ft. D. A. Russell, Wyo., is extended twenty-three days. Par. 6, S. O. 68, Dept. of the Platte, June 8, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending June 13, 1891.

Asst. Surgeon A. R. Alfred, from Naval Hospital, Norfolk, and to the "Fenn."

Asst. Surgeon James Stoughton, to duty at Naval Hospital, Norfolk, Va.

Asst. Surgeon L. L. Young, to duty at Naval Station, Port Royal, S. C.

Surgeon F. H. Streets, ordered to duty on the U. S. S. "Bennington."

Medical Inspector A. A. Hochling, ordered as member Naval Medical Examining Board.

Medical Director P. S. Wailes, ordered as delegate to represent Medical Corps of the Navy at the International Congress of Hygiene and Demography, at London, Eng.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending June 6, 1891.

Surgeon C. S. D. Fessenden, granted leave of absence for thirty days. June 6, 1891.

Surgeon Fairfax Irwin, leave of absence extended seven days. June 4, 1891.

Surgeon F. W. Mead, when relieved at Chicago, Ill., to proceed to Washington, D. C., and report to the Supervising Surgeon General for duty. May 29, 1891.

P. A. Surgeon G. M. Magruder, granted leave of absence for five days. June 1, 1891.

Asst. Surgeon G. B. Young, leave of absence extended fifteen days on account of sickness. June 6, 1891.

CORRIGENDUM.

On page 798, issue of June 6, first column, line 13, for "thirty," read *three*.

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No. 26.

ORIGINAL ARTICLES.

REPORT ON AN EPIDEMIC OF CEREBRO-SPINAL MENINGITIS.

Read in the Section of the Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY J. S. NOWLIN, M.D.,
OF SHELBYVILLE, TENN.

In presenting the subject of Cerebro-Spinal Meningitis, the first thought I offer is that our nomenclature in this as in many other diseases leads to an erroneous view of the pathology and treatment.

Our authors have almost universally written as though the inflammatory action found in the coverings of the brain and spinal column was the original lesion to be combated. It will not be necessary, for the purposes designed in this paper, to deny the fact that an inflammatory action may be found in many cases.

The error, as I conceive it to be, and to which I would direct attention, is that the inflammation, if it does exist, in a given case, is not the disease to be treated, but a sequence.

It is only necessary to call attention to the great number of deaths occurring within five days, with no exudation in these tissues evincing inflammation. It is a self-evident proposition that the cause of death is not inflammation.

Realizing the thorough knowledge of the members of this Association with the literature of this subject, I shall not burden you with quotations to prove this and other facts which I shall present. I mention however, that Dr. Alfred Stille, alluding to this question, says, "There ought to be no doubt whether epidemic cerebro-spinal meningitis should be classed with general diseases or with inflammation. It is excluded from the latter class by the total absence of any tangible external cause, as well as by its frequent fatal termination before the characteristic signs of inflammation have had time to form, or because the peculiar type of the disease prevents their development." It is clear to my mind that it is a non-inflammatory trouble and that the inflammation is only concomitant.

I remark further that the impress of the cause,

whatever it may be, is made upon the nerve centres, but before noticing directly the etiology, I submit the history of five cases which I saw in 1888.

In December, Mr. H., aged 44, was attacked. He had not been well for two or three weeks, suffering each day with pains in shoulder and neck, and in arms and back. He kept up work on his farm, and attributed his pain to rheumatism. On Saturday he came to Shelbyville, and returned home, a distance of four miles. During the day his nose bled freely. This had occurred at different times previously. He complained somewhat the same way on Sunday, at 8 P.M. had a chill, and head, neck, and eyes pained him intensely, and he suffered excessive pain in his knee joints. His throat was sore, and in less than an hour he was delirious and almost entirely deaf. Dr. A. P. Ryall was called to see him and found a bounding pulse, temperature 100° , and he could be kept in bed only by the greatest effort of three strong men. He gave him bromides with heavy mercurial purgatives, and large doses of morphia. He cupped him and poured large quantities of well-water on his head. I saw him at eleven o'clock Monday night, after he had been sick twenty-four hours. He was hardly conscious of his surroundings, his mind was entirely obscured, and he was deaf. He could see with difficulty and there was ptosis of the lid of left eye. One pupil was much more dilated than the other, and both responded to light slowly. He was continuously tossing and when still for a moment, was on the side and never on the back. There was constant desire to micturate, but the urine was voided with difficulty. Red spots appeared on his face, body and arms from the size of a pin's head to that of a five cent piece. His knuckles and wrists were especially red, and the skin in the highest state of hyperæsthesia: pressure upon the hand producing contraction of the muscles of the face. There was an herpetic eruption on the lips; the head was slightly drawn backward; he had distressing nausea and vomiting from the beginning.

We gave him six drops of veratrum viride every three hours and ten grains of quinine every hour until six in the morning.

Although he vomited frequently, we thought

he had retained most of the quinine. At that hour his symptoms were greatly improved. He was rational and could see fairly well, though one eye squinted. His stomach was quiet and he had slept some. He drank some milk and had a free and copious action from the bowels. The quinine was suspended until evening, the veratrum was not given after four in the morning. Morphia, potassium bromide and tincture of gelseminum were given through the day. He passed through the day Tuesday much better than Monday, but as night approached his ugly symptoms all returned, and notwithstanding the quinine and all other available means were pressed through the night, it was quite evident on Wednesday morning that he must die, which he did that night at nine o'clock.

On the following Friday afternoon the little daughter of Mr. H., aged 5 years, apparently in good health, and out in the yard at play, came hurriedly to her mother complaining of pain in the region of the umbilicus. She soon had shivering followed by pain in the head and neck, pulse 140; breathing rapid, with an occasional sigh; temperature 103° , delirium and sick stomach; opisthotonos marked; skin hyperæsthetic; blind in one eye from infiltration of the cornea, which was perfectly white. She had a red eruption. She was bathed in warm water, given gelseminum, quinine in large doses, and nothing left undone that promised relief. She died on the following Monday night.

On Tuesday her brother, 13 years old, had a chill, followed by pains in nape of neck, sick stomach, headache, sore throat, pain in back and a peculiar pain about the joints of the lower limbs. He was given quinine and calomel, and recovered in a few days with but little trouble. He had a similar epistaxis to that of his father, but there was no eruption. This family lives on the side of a considerable hill. The front of the house is three or four feet above the surface while the rear rests flat on the ground.

The soil on the south side and in the rear of the house was at that time continually damp. The drinking water was, for the most part, from a spring which had been dry during the summer months. Long preceding this it had been walled with wood, which at this time was in a state of decay. The washings of soil, leaves and grass, and every conceivable thing had lodged within this enclosure for years. When the stream began to run in Autumn it was very sluggish. Here, in my opinion, is the source of the sickness in this family.

On March 6th, 1889, Wm. G., aged 21, was attacked with shivering, followed by intense pain in the head, neck, back, and especially the bowels. His knee-joints were painful and he had sore throat. He had been quite unwell for several days preceding this, and his nose had bled

several times. The cold stage was followed by contraction of the muscles of the arms and hands, spells of difficult and panting breathing were frequent, his pulse and temperature were normal.

He was boisterously delirious, had sick stomach, spots on the face, herpes labialis. He was given anodynes, bromides and calomel. He also had large doses of quinine and morphia. The morphia did not affect him pleasantly. In eight hours he was given 80 grains of quinine. He also had every four hours one drop of carbolic acid and three drops of tincture of iodine in water. He had large quantities of cold water poured on his head at first, but it was soon noticed that hot water had a more desirable effect, as it quieted him for the time being. He recovered in twelve days. I may mention that after being up a few days and walking a quarter of a mile he had a relapse in which many of the first symptoms recurred. His sister had the same symptoms, but not so severe, and she also recovered.

On March 24, 1889, G. E., aged 21, living in Shelbyville, had a chill followed by a fever, pain in the head, neck, back and limbs, especially in the calves of the legs and knee-joints, hyperæsthesia of the skin, sick stomach, temperature 103° , pulse 100, tongue broad and coated. He had red spots on both hands, particularly the knuckles, and on the wrists and body. I saw him at 10 P.M. of the 24th; at that time he was only partially delirious. He had 10 grains of calomel and 40 grains of quinine during the night, with sufficient morphia to keep him quiet. On the 25th his temperature was lower and his pulse 90, pain in head more intense, patient somewhat stupid, considerable deafness, and muttering delirium.

He was given bromides, gelseminum, ergot and calomel. The tincture of iodine and carbolic acid mixture was also given. Quinine was pressed as rapidly as possible. On the afternoon of the 26th he had a convulsion, and during the night the convulsions recurred several times. His right side was paralyzed. He died on the afternoon of the 29th, having been sick five days.

These cases were of the most malignant type. Quite a number of cases more mild were treated during the months of January, February and March. They had the erratic pains which were felt in different parts of the body, headache, and pain in the nape of the neck and lower limbs. Many cases had redness of skin on hands and wrist; some had fever three or four days, others much shorter time. I could if necessary give their history in detail. There can be no doubt that the original lesion of this trouble is to be found in the nerve-centres. The rational signs point unmistakably in that direction, and the physical symptoms lead the same way. The impress of the poison, whatever it may be, is made

originally on the nervous system. I conclude from observations made not only in the years 1888-1889, but from the cases that I treated in the years from 1860 to 1863, that the real cause of this disease is malaria. The symptoms of malarial blood poison are as protean in their manifestations as the shades of the chameleon.

The three cases in the family of Mr. H. covered the extremes of these manifestations. The prodromata in the father's case was clearly indicative of nerve lesion, the same as usually produced by malaria.

The shifting and shooting pains in the body, the headache, pain in back and limbs, all point in that direction.

The epistaxis was evidently dependent on malarial toxæmia.

A bleeding nose in the early history of a fever is strong evidence of malarial origin. Herpes labialis is also often observed in the milder types of malarial trouble. If we take the three common types of malarial fever, intermittent, remittent, and pernicious, we have extremes wide enough to cover all the phenomena and peculiarities of the so-called cerebro-spinal meningitis. The young man, Mr. C., had just one week previous to his fatal attack, the most intense pains in his legs and knee-joints; the red eruptions on the knuckles of his hands. This all subsided within twenty-four hours and he was at his usual occupation for the succeeding week. I observed this periodic return of the symptoms in several cases. While the ordinary types of malaria are developed in the autumn and spring, and seldom in the winter, it is true that the pernicious cases are as apt to be developed in February and March as at any other season. I do not think the fact that cerebro-spinal meningitis has been observed in mid winter, is sufficient argument against its malarial origin. If I have succeeded in showing some facts, proving that inflammation is not, and should not, be the overshadowing symptom, and that it must not control the treatment, and further, if the cause is found in malaria, then the line of treatment is plain.

The practitioner who has confronted this dreaded disease, and who has looked through the pages of the best authorities, must feel that he goes into the battle with an uncertain guide and a trembling hand. Uncertainty as to cause, and an evident want of confidence in the remedies recommended, mark the written history of cerebro-spinal meningitis.

A disease so bold and rapid, and fatal in its results, must be met by no faltering hand. It is no new thought that malaria is the cause, but I insist that the fact has not been fully recognized, and that the treatment, both prophylactic and curative, has not been thoroughly tested because of this want of recognition.

No disease of malarial origin can be satis-

factorily treated upon general principles. It is a specific disease and requires specific treatment. Quinine is the antidote, and without, no success can be expected. There are many adjuvants which must be used; calomel in large and repeated doses, venesection and veratrum, are among the best arterial and nerve sedatives, and at the same time they favor the absorption of other medicines, and the elimination of blood-poison.

The bromides, chloral, and morphia are to be used freely. The quinine should be used hypodermically in not less than 5 grain doses, and at not longer intervals than one hour; the bisulphate is the best for this purpose and can readily be dissolved in warm water. There are a few cases which cannot be controlled in every epidemic of any disease, but they all have their prodroma, and if the medicines are given in time many cases can be prevented from reaching the grave type. This is eminently true of cerebro-spinal meningitis. It is as a prophylactic that quinine is to be the greatest boon. When it is threatening to be epidemic the physician should warn his patients that the first shooting pain and the earliest uneasy aching, the slightest headache or slightest arthralgia, must be met with quinine. It is here that the inflammatory theory has done its greatest harm by withholding the hand in the fear of exciting it.

Let it be remembered that malaria is killing the patient, and not inflammation. If the patient survives the deadly touch of the blood-poison then there will be plenty of time to treat the inflammation, which is one of the sequelæ of the perverted blood-vessels caused by an influence exerted through the nervous system.

REPORT OF SIX CASES OF ABDOMINAL SECTION.

Read in the Section of Obstetric and Diseases of Women at the Forth and Annual Meeting of the American Medical Association held at Washington, D. C. May, 1891.

BY A. C. WILSON, M.D.,
OF YOUNGSTOWN, OHIO.

Case I.—Mrs. J. W., aged 28 years, married ten years, has had two children, elder 8 years, younger 6 years. She has had two miscarriages, one four years and the other two years ago. Her labors were always long and tedious, and her recoveries slow. Menstruated first at the age of 15 years. Always suffered great pain at these times. Since the birth of the last child, she has been a constant sufferer from severe pelvic pain, and a dull aching in the lower part of the back, rendering her able to walk but a short distance. She was treated one year for the pains with tonics and nervines, and also locally by painting the vault of the vagina with tr. iodine, and with glycerine tampons. She received no relief by

this treatment. Her suffering was so constant and extreme that the removal of the uterine appendages was proposed and gladly consented to. On October 30, 1889, assisted by Dr. H. A. Kelly, of Baltimore, Md., the tubes and ovaries were both removed. She made a rapid recovery without an unfavorable symptom. There has been no pelvic pain since the operation. She got up the fifteenth day, and in six weeks began doing her own work. She is now able to walk without discomfort, and is well in every respect.

Case 2.—Mrs. F., aged 49 years, married and has had eleven children, all still-born, except two who died soon after birth. Two years before I saw her, she received an injury in the lower part of the abdomen which caused an inflammation, and confined her to bed for several weeks. Since then she suffered constant pain in that region, and a small tumor could be indistinctly made out at that point in the abdominal cavity. She was treated for her trouble by her family physician for a long time with no benefit. An exploratory operation was performed Nov. 20, 1889, to determine the character of her trouble. The small tumor proved to be a mass of adhesions matting together the omentum and bowels. The less firm adhesions were broken up by the fingers, freeing the bowels as much as possible from constrictions. The abdominal cavity was well washed out with hot distilled water, and carefully sponged out, and the abdominal wound closed. The patient had no previous preparation, and had partaken of a hearty meal but a couple of hours before the operation. The surroundings of the patient were bad, the rooms small and filthy, but she made a good recovery from the operation. Although she still suffers some inconvenience, yet she has been much improved.

Case 3.—Mrs. J. S., aged 28 years, married seven years. Has one child 6 years of age. Has had four miscarriages, the last in February, 1890. She first menstruated at the age of 14. Since the birth of her child she has been a constant sufferer. She was first seen in March, 1890, menstruation was then occurring every two weeks. On examination I found the uterus slightly retroverted, the left ovary enlarged, prolapsed, and very painful to the touch. At that time she was weak and anæmic. Tonics including iron were prescribed. Locally she was treated with iodine and glycerine tampons. Her general constitution became better, but the ovary showed no improvement. Its removal was advised, and consented to, with the understanding that the right one should be left, unless it be found so far diseased as to be entirely useless. The operation was performed May 26, 1890. The adhesions binding the left ovary were broken up and it was removed with the tube. It was about the size of a hen's egg, containing an ab-

scence filling almost the whole ovary with pus. The right ovary, being healthy, was left. The abdomen was closed and she made a rapid recovery. Her menses came on the latter part of June. In July they failed to appear. In August she consulted me about her condition. She had morning sickness; after questioning her closely, I concluded she must be pregnant and advised her to remain quietly at home. After a couple of weeks she became quite comfortable. About the 12th of September, the next day after a ride of several miles over a rough road, in a not easy riding vehicle, I was called to see her. She had severe pain and profuse hæmorrhage; in short I found her suffering from a miscarriage. The membranes came away easily, and in two week's time she was able to be up again. After a couple of months, she began to suffer a great deal of pain in the right ovary, which as yet I have not been able to relieve, and I very much fear that a second operation for the removal of the right ovary will be necessary.

Case 4.—Mrs. E. W. D., aged 30 years, has two children, the elder 7 years, the younger 2½ years. One miscarriage five years ago. Labors have always been protracted and severe, and recoveries slow. She first menstruated at the age of 16, which has always been painful. Has suffered more pain since the miscarriage five years ago. Since the birth of her last child she has menstruated every two or three weeks, constant pain in back and pelvis. Has headache nearly all the time and is very nervous. First examined her in May, 1889. Uterus slightly retroflexed, and both ovaries exceedingly painful to the touch. She was also very weak and anæmic. She was treated with tonics, and also with appropriate local applications for a year. Her general condition was improved, but there was no relief to the pain. In August, 1890, she became very much worse with the pain and was confined to her bed. The removal of the uterine appendages was advised. Consequently, September 18, the operation was performed. Both tubes and ovaries were adhered by bands of adhesions to the surrounding parts, but were easily removed. The ovaries were enlarged but contained no abscesses.

The tubes presented a granular appearance, and exuded a thin bloody pus. The patient made a good recovery, and began doing her own work and caring for a family of five members, the following January, and still continues to be well.

Case 5.—Mrs. M., aged 39 years. Has had four children, the youngest 4 years of age. The last labor very long and difficult, and was followed by puerperal fever, from which she made a slow recovery, which was never complete. Since then she has had constant pelvic pain, and also pain in the lower part of the back, and

menses appearing every two or three weeks. She never was treated for her trouble until the summer of 1890, when she became unable to work, and was confined to her bed. She received appropriate treatment, both local and constitutional, from her physician during the summer and early fall of 1890. She was first seen by me in August. Both ovaries were very painful to the touch, the left one prolapsed and lying behind the uterus. The removal of the tubes and ovaries was advised. October 10, the operation was performed. The ovaries were adherent, but the adhesions were easily separated and both tubes and ovaries were removed. The ovaries were small and sclerotic, the tubes enlarged and exuded a thick yellowish serum. The patient made a good recovery. After three weeks she went home and went to work, caring for her family, which very much retarded her complete recovery. She has continued to improve, until now she is comparatively well.

Case 6.—Miss J. R., aged 20 years. In May, 1889, she had a large cyst of right ovary removed by Dr. A. Kelly. The left ovary at that time was in perfectly normal condition and was not removed. She recovered very nicely from this operation. She was well until July, 1890, when she had an attack of dysentery; after this she complained of severe pain in the lower part of the abdomen and pelvis. She was treated with tonics for some time with little benefit. In August an examination of the pelvis and abdomen was made. Bands of adhesions could be felt in the right ovarian region. These extended from the womb and right broad ligament, and seemed to be connected with the bowels. She complained of much pain in that region, and especially when the bowels were about to move. The uterus was slightly movable, seeming to be fixed by bands of adhesions to the line of the old cicatrix. The right ovary was enlarged, painful, and slightly movable. She grew gradually worse during the latter part of the summer. In the fall she became bed-fast. The pain in the pelvis became so intense that it became necessary to give her opiates for her relief.

On December 27th, laparotomy was performed for her relief. An incision three inches in length was made at the right and close to the old cicatrix. Some difficulty was experienced in opening the peritoneal cavity, because of the adhesions of the bowel and omentum to the old cicatrix. At the right of the uterus, there was a mass of adhesions matting the viscera in this region all together. These were broken up. The stump of the old pedicle from which the cyst was removed two years ago was found, with the ligature about it, but apparently as it was left at the former operation, a year and a half before. This was left as it was. The left ovary and tube were firmly bound down and were removed with diffi-

culty. There was a great deal of hæmorrhage, but the abdominal cavity was flushed with hot distilled water and it soon ceased. The abdominal cavity was then carefully sponged out and closed without a drainage tube. I regretted afterwards that a drainage tube was not used, as there was a great deal of pain and some distension of the abdomen, which gave me a great deal of uneasiness for fear there was more oozing of blood than the peritoneum could take care of. Nevertheless she recovered slowly, and is now nearly well. She suffers no pain and walks about with no inconvenience, and is improving rapidly.

These operations were all, except Case 5, performed at their dwellings. Case 5, was done at the Youngstown City Hospital. The rooms in which the operations were done and where the patients were subsequently cared for, were all carefully cleaned, carpets and furniture removed, all wood work carefully washed with a 1 to 1000 sublimate solution. This was done in all cases except Case 2, which had no preliminary preparations whatever. All except Case 3, previous to the operations, were given saline cathartics and the bowels thoroughly emptied. They were carefully bathed, the abdomen and genitals thoroughly washed in 1 to 1000 sublimate solution. The hands of both the operator and assistant were thoroughly scrubbed with hot water and soap, and then immersed in 1 to 1000 sublimate solution for a few minutes. Nothing but hot distilled water was used in cleansing the abdominal cavity or the wound.

Silk ligatures were used for both the pedicle and the closing of the abdominal wound. These were prepared by boiling for fifteen minutes in distilled water, and then placed in 1 to 1000 sublimate solution for two hours, and preserved in alcohol. Nothing but liquid food was given for a couple of days before the operation, and no food or drink except weak tea was given for two days after the operation. The temperature of none of these cases ever rose above 100. No stitch abscesses occurred in any of the cases.

Hypodermics of morphia were given the first three days after the operation to relieve the pain, except in Cases 1 and 2.

The results obtained in these cases have been entirely satisfactory. Before the operations they were great sufferers, unable to attend to their household duties. To-day they are doing their own work at home, and with the exception of cases 2 and 3 who were greatly improved, are well and happy women.

Youngstown, O., May 1st, 1891.

DR. JAMES N. MARTIN has been appointed to the chair of Obstetrics and Diseases of Women in the University of Michigan, which he has filled since the death of Dr. Dugster.

A CASE OF DOUBLE UTERUS AND VAGINA.

Read in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY M. GUHMAN, M.D.,
OF ST. LOUIS, MO.

Mrs. A., 28 years of age, married six years, well developed. First pregnancy four years after marriage—there was nothing unusual during her term of pregnancy. Dr. Langan and I delivered her on February 6, 1889, under the influence of chloroform, of a living female child. It was a breech presentation, and never entered the inferior strait, and followed by a complete inversion of the uterus, which I reported to the St. Louis Medical Society. On April 25, 1890, I was summoned again to deliver her the second time. Upon examination I found it another breech presentation. Labor progressed favorably until entering the inferior strait, and then it became firmly lodged. I sent for Dr. Langan and my son to assist me. Under the influence of chloroform and in position, I proceeded to deliver her. I introduced my fingers in the vagina, but to my surprise I could not detect any child, nor could I find the mouth of the uterus. I could feel a something through a partition, but I did not know what that partition was. I was under the impression that from the change of the position of the woman, and under the influence of chloroform, the uterus with its contents was displaced, and the mouth of the uterus was out of my reach, although thinking that such a state of affairs was impossible. I introduced my finger backwards and forwards, with always the same result. I asked Dr. Langan to make an examination. He also got his finger in the same canal, and we still were not aware that we had to deal with a double vagina and uterus. We could not detect the neck or mouth of the empty uterus No. 2, it was also drawn out of our reach. Being perplexed at finding such unusual complications which we could not account for, we agreed to send for Dr. Mooney, who resided near by. We kept our patient under the influence of chloroform. When Dr. Mooney came, he also got his fingers into the empty vagina. We concluded to make an ocular examination, which revealed a septum arising from the orifice of the urethra, and extending along the median line to the fourchette, completely separating the vagina into two canals. We introduced our hand into the vagina leading to the impregnated uterus, and delivered the woman of a living female child. After delivery the condition of the woman was such that we did not think it prudent to make any further examination. Our patient improved rapidly, and on May 11, 1890, Dr. Mooney and I made another examination, and found things as above described. In each vaginal cavity we found a well developed cervix; we introduced a uterine

sound in the left uterus to a depth of $2\frac{1}{2}$ inches. On account of some blood flowing from the uterus after our examination, and only sixteen days after delivery, we abstained from any further examination. Since I introduced a sound in the other (right) uterus, and also found its depth about $2\frac{1}{2}$ inches. From our examination and observation, it seems that both uteruses have been impregnated, the right first, and the left second; she did not menstruate during either pregnancy. It is my opinion that we have more double vaginas and uteruses than we are aware of, because it is only by accident that we find these anomalies. I have treated my patient in my office, after her marriage, for a slight flexion of one of the cervixes, with a speculum, made digital examination, and delivered her once; and I only found her condition by accident at her last confinement. All other such cases of which I have read were found by accident. For the development of anomalies of vaginas and uteruses, I would refer you to some of our text-books.

Gentlemen, I thank you for your kind attention.

REPORT OF A CASE IN WHICH THE CHILD'S ARM BECAME ENGAGED IN THE FENESTRUM OF THE OBSTETRIC FORCEPS.

Read by Title, in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY DAN MILLIKIN, M.D.,
OF HAMILTON, O.

Nearly a year ago I attended a woman who had borne four dead children after severe and complicated labors, each time under the care of a different physician. She had also borne one living child, which owed its existence to the fact that it was very small, and, probably, was prematurely born. This woman, half through her sixth pregnancy, came to me, and consented to the induction of premature labor. Thereupon she passed from my notice, changed her plans upon ill advice, and summoned me when labor at term had progressed for two or three hours.

When the cervical tissues were in proper condition, a careful examination of the case was made under an anæsthetic. Finding a head of moderate size above the brim of the pelvis in left occipito-anterior position, I was sure that I could deliver it with forceps in spite of a slight asymmetry, and a shortened antero-posterior diameter of the pelvis. In this opinion I was all amiss, for it was afterwards demonstrated that the child could not be delivered in that position, and it also appeared that it could be delivered easily feet foremost. But this error of judgment is somewhat apart from my present business.

Four fingers were passed, and the forceps were

carefully guided to the sides of the child's head. They were easily locked and manifested no disposition to slip during the attempted extraction of the child. It may also be remarked that they were my pet instruments, with broad blades and strong curves, cephalic and pelvic.

No effort was made to induce pains by traction. The pains were very vigorous but separated by unusually long intervals. For this reason, and because the woman's general condition was excellent, the effort to deliver by forceps was much prolonged.

When, finally, it was determined to essay delivery by podalic version, a state of affairs was presented which, so far as I can learn, was unique in obstetric practice. The upper blade of the forceps—that one which passed to the right side of the woman's pelvis—would not come out! The lower blade was withdrawn first, and without difficulty, but still the other would not come away. Then my hand, passed into the uterus, revealed the fact that the child's right hand had passed through the fenestrum of the blade and that, in fact, the blade hung on the bend of the elbow, as a basket hangs on one's arm. The blade could not have been withdrawn without internal manipulation.

Presently, when the child had been delivered by the feet, it was seen that violence had been done to the forearm alone, and that the injury was near the elbow. No bones were broken, but the soft parts were terribly crunched. Undoubtedly, if the instrument had been long and stiff, and if it had appeared proper to compress the head very severely, the arm would have been completely chewed off.

Endeavoring to draw some warning from such a sorry job, we may note, in the first place, that the accident could only occur when a suprapelvic application of the forceps is made. To attain the odd position in which I found it, the arm must have lain for a moment with its palmar surface on the convex surface of the forceps blade as it was about to be applied to the head, then the hand must have dropped into the fenestrum, and finally, the forearm must have been flexed upon the arm by the final thrust of the blade home to its position. All of these evolutions require room, and could only occur above the brim.

In the second place, I would remark that the accident cannot possibly be diagnosed unless the head and arm are above the ordinary size. In my case the forceps were easily introduced and locked with the greatest ease; the handles were approximated as much as in the average case; there was no disposition to slip, neither when the forceps were in my hands nor in the hands of my skilled associate, Dr. Geo. C. Skinner; the child's head and the points of the forceps were repeatedly and carefully palpated through the thin abdominal and uterine tissues, and no suspicion of this

unique complication arose in our minds. I cannot believe that the most expert and experienced obstetrician could have detected the presence of the arm in the fenestrum until he attempted the withdrawal of the instruments.

For this reason I am in the humor to inquire whether the fenestrum has any reason to exist. What is it good for, anyway? It has been said in most of the systemic treatises that the fenestrum gives lightness to the forceps, but this proposition, which is at first glance very plausible, admits of question. Give to me a solid blade that is admittedly too heavy, and I can lighten it either by cutting out a fenestrum or by grinding it thinner. If I cut out the fenestrum I weaken the blade, past question, and may need to thicken the remaining metal to restore the lost strength. Any instrument shop will furnish samples of forceps which have passed through this line of development; that is to say, they are light blades with generous fenestra and metal altogether too thick. And after all, what signifies weight in obstetric forceps? Ordinary forceps, fenestrated or non-fenestrated, need not weigh more than a pound, and it is easy to make a long pair of crushing instruments with a pound and a half of steel. Surely the brother who cannot carry a pair or two of this weight is not stout enough to be out at night, much less to use forceps.

On behalf of the fenestra it has been said, further, that they permit prominent parts of the head to engage in them—the parietal eminences, for example—in such a manner that the forceps occupy no available room, take a much better hold upon the head, and obviate the tendency to slip. To this it may be responded in the way of argument, that it is a remarkable streak of luck, and nothing but luck, when the prominences on a child's head project into the fenestra. It may be said, further, that forceps rightly chosen and rightly used for the case in hand do not occupy any available room nor, when in use, increase the diameter of the child's head measured between the blades. Fenestrated or non-fenestrated, they *make* room, moulding the head by compressing it to such a degree that were they of double thickness they would find room. And, finally, as to the slipping of the forceps, it may be said that when they show an inveterate tendency to slip, either the forceps or the operator should be changed; there is something amiss in the fit, the application or the manipulation. Fenestra will not prevent slipping when the forceps have not been placed upon the child's head, nor when they are used merely as tractors.

And it may be urged, further, that when we cut fenestra in our forceps we increase the total amount of edge surface. This is a positive disadvantage which should be atoned for by some very great advantage. Examining the head of a

child which has been the subject of a severe forceps extraction, one will find that the narrow rim of metal about the fenestrum has shown a tendency to actually cut into the tissues of the scalp. Not only the outer, convex, marginal edges make their mark, but also, in lesser degree, the inner, concave edges which bound the fenestrum. Looking at such a specimen one would incline to the opinion that the fenestrum is an evil.

But waiving the question as to whether the fenestrum has any reason to exist, I think that my mishap in the case cited gives us reason to cease operating above the brim with forceps having wide fenestra.

EXTRA-UTERINE PREGNANCY.

Read in the Section of Obstetrics and Diseases of Women, at the Forty-second Annual Meeting of the American Medical Association, Washington, D. C., May 5, 1897.

BY DONNEL HUGHES, M.D.,
OF PHILADELPHIA.

In discussing the subject of extra-uterine pregnancy, it is advisable to begin by directing our attention to the locations at which fecundation takes place. There are three sites at which it is supposed to occur, viz.: the Fallopian tubes, the ovaries, and in the peritoneal cavity.

There are several varieties of the three species just alluded to. The tubo-ovarian is that variety in which the germ is arrested in the pavilion (the tube adhering to the ovary).

The tubo-abdominal, in which the germ is arrested in the same place as the tubo-ovarian, but instead of the tube being adherent to the ovary, it is adherent to any of the neighboring viscera.

The tubal-proper is that form in which the germ is arrested in any part of the oviduct between the pavilion and that portion of the Fallopian tube that is surrounded by the uterine walls.

The tubo-uterine, or interstitial variety, is that form of gestation in which the ovum is arrested in the part of the tube that is surrounded by the uterine walls.

Abdominal pregnancy is usually divided into primary and secondary varieties. In primary abdominal pregnancy the germ is arrested in the peritoneal cavity. In secondary abdominal pregnancy the germ is arrested in the Fallopian tube or ovary, and the cyst ruptures and allows the ovum to escape into the abdominal cavity, where it continues to live and develop.

Ovarian pregnancy is that form of gestation in which the ovum is developed in the ovary.

By far the most frequent variety is tubal pregnancy, and the most common causes of this variety are supposed to be inflammation of the mucous membrane that lines the Fallopian tubes and destroys its ciliated epithelium, thereby leaving a denuded surface for the fecundated egg to adhere

to; flexion of the tubes, which prevents the ovum from entering the uterus; hernial pouches produced by dilatation of the oviduct. When the impregnated ovum is arrested and remains for any length of time in the tube, the mucous membrane becomes hypertrophied, surrounds the egg, forms a decidua, and a placenta is developed, very similar to that which is found in normal pregnancy. When the product of conception is situated in the free part of the tube, rupture almost invariably takes place before the thirteenth week, and sometimes as early as the fourth or fifth week; when it does occur, it is either into the peritoneal cavity or between the folds of the broad ligament. When rupture takes place into the peritoneal cavity, death is almost certain within a few hours, unless the abdomen is promptly opened, the bleeding vessels secured, and all foreign substances removed. When rupture takes place into the cavity of the broad ligament, the prognosis is not so grave, as the product of conception may be disposed of in several ways, viz.: it may remain between the folds of the ligament, go to full term, and be removed when viable as a living child, or it may die and be absorbed, or it may die and suppurate, and be discharged through the vagina, the rectum, bladder or abdominal walls, or it may lie quiescent as a lithopedion, or it may become intra-peritoneal through secondary rupture.

Tubo-uterine, or interstitial pregnancy, is of rare occurrence. Rupture usually takes place before the fifth month, and when it does occur it is into the peritoneal cavity.

Ovarian pregnancy undoubtedly has existed, but is extremely rare. A few cases have been recorded. The earliest of which I can find any record is that of M. de St. Meurice in the year 1682. Marius has reported three specimens, which are in the pathological museum of Wurzburg, which he has examined, and believed them to be impregnated ovaries. J. G. Porter reported a case of ovarian gestation in the year 1853. The autopsy showed the left ovary enlarged and containing a gravid sac, the Fallopian tube on the same side being free from adhesions. Kammerer exhibited a specimen of ovarian pregnancy to the Pathological Society of New York in the year 1865. Spiegelberg also records a case of pregnancy in the right ovary.

After carefully reviewing the literature of the subject of abdominal pregnancy, I have arrived at the conclusion that primary abdominal pregnancy has not been proved by any well authenticated cases to have existed; nor does it seem possible for a fecundated ovum to remain for a long enough time in any one position to contract an adhesion that is sufficiently firm for its development; and furthermore, if it did so, its absorption or digestion would be very likely.

I believe that most, if not all, abdominal pregnancies are secondary, fecundation usually occur-

ring in the oviduct, escaping from thence through a rupture into the abdominal cavity, and there becoming adherent to any surface with which it comes in contact.

The uterus in extra-uterine pregnancy is subject to a variety of changes, similar in many respects to those that occur when the product of conception is contained within its cavity. It always undergoes certain changes which prepare it for the reception of the ovum. Its cavity is often lined with decidua, or I might say, *always*, because in many cases it is thrown off in small shreds and is passed without being observed; in other cases it is expelled *en masse*, often leading one to suppose that an abortion is in progress; the cervix frequently contains a plug of thick mucus similar to that found in normal pregnancy. The whole organ becomes more vascular, enlarged and softened—or, in other words, prepares itself for parturition.

The impregnated germ, from the beginning to the end of its growth, is not abnormal in any way, except in its location. A portion of the foetus may be in the uterus while the remainder is in the abdominal cavity, as in a case reported by M. Mondat,¹ in which the head of the child was in the uterus, while the trunk occupied the Fallopian tube.

Bell narrates a case² that was verified by a post-mortem, in which the foetus was in the uterus and a portion of the placenta was within the Fallopian tube. On the other hand, the placenta may occupy the normal position and the foetus may be contained within the tube or abdomen, as was shown by Hey,³ Putna⁴ and Hofmeister⁵ in separate autopsies where the child was found free in the abdomen, the cord extending through the tube to the interior of the uterus, where the placenta was attached.

A number of cases have been recorded in which fetuses have been found in hernial sacs. Gouley, Genth, Muller and others have reported such cases, the greater number of which were found in inguinal hernias.

Twin conception is another variety of extra-uterine pregnancy. It is a very uncommon coincidence to find both children in the same locality; it is generally uterine, while the other is extra-uterine. Normal pregnancy may take place while extra-uterine pregnancy already exists, and gestation advance to full term and labor take place without any unusual occurrence, provided that the pelvic outlet is not obstructed by the extra-uterine foetus. Gordon reported a case in which a woman gave birth to five living children while carrying one that had become encysted.

The positive diagnosis of ectopic gestation in

the early stages is almost impossible in every case. There are no regular symptoms that occur during the first few weeks that are not frequently found in normal gestation. If from any cause one is led to believe, or even to suspect, that anything is unusual, a physical examination should be made. The size of the womb should be compared with the size it should be, at the supposed period of pregnancy. A careful search should be made in the neighborhood of the Fallopian tubes, fundus of the womb and ovaries. If an enlargement is discovered, so much is gained. The question then arises, to what is that tumor due? Is it a pyosalpinx, a hæmatosalpinx, a hydrosalpinx, a subperitoneal fibroma, a cystic ovary or an extra-uterine pregnancy? These questions will have to be decided by an inquiry into the previous history of the case, and by carefully comparing the symptoms of the disease which it might resemble with the symptoms of pregnancy. The size of the tumor should be compared with the size that the foetal sac should be at the supposed time of gestation. If the following symptoms are present, I think that one is justified in treating the case as extra-uterine pregnancy:

1. A previous history of sterility, or if a long period has elapsed since the birth of the last child.
2. Amenorrhœa followed in six or seven weeks by irregular hæmorrhages.
3. A tumor in either Fallopian tube.
4. Slight enlargement of the uterus, with softening of the cervix.
5. The presence of decidua. The latter symptom is of great importance. A small portion of the decidua, if present, can often be obtained by passing a pair of dressing forceps into the womb, pressing them against its lining, then closing and withdrawing them. Great care and gentleness must be exercised in their introduction, and if the slightest obstruction should be encountered they must immediately be withdrawn.

If, in addition to the foregoing symptoms, there is a plug of thick mucus in the os uteri, morning sickness, enlargement of the breasts with alteration of the areola, one is justified in passing a sound cautiously into the womb for the purpose of ascertaining the presence or absence of a foetus.

The diagnosis cannot be made with certainty until after the fourth month, when the outlines of the child can be distinguished and the movements felt. Generally, the first time we are called upon to see the case, we find the patient complaining of an agonizing pain in the lower part of the abdomen, with symptoms of shock and internal hæmorrhage, which very clearly tells us that rupture has taken place. If death does not follow, peritonitis, either localized or general, is sure to develop. If the woman survives the attack, it is very likely to be repeated within a short time. When rupture takes place within the folds of the broad ligament, the symptoms are not so severe

¹ Archives Générales de Méd., Tome 11, 2d Series, p. 67.

² London and Edinburgh Med. Jour., November, 1845, p. 817.

³ Med. and Obst. Jour. Vol. viii, London, 1796, p. 341.

⁴ Cayana, loc. citat., p. 500.

⁵ Rusto Magazine, 1823, Vol. xv, p. 126.

or alarming; in fact, the pain in some instances has been so slight as not to have been observed by the patient herself. This form of rupture is very rarely, if ever, followed by peritonitis. If the foetal sac ruptures, the foetus dies; if it does not rupture, gestation continues until full term, unless it is interrupted by secondary rupture into the peritoneal cavity. If this accident should happen, the symptoms are the same as those that occur in primary rupture into the peritoneal cavity, except that they are much more severe, and death is certain to follow unless operated on immediately. If the foetus is carried to full term, a spurious labor will set in, and if the woman is not delivered, the child will die.

If our knowledge of the differential diagnosis of the various forms of ectopic gestation was more exact, the treatment would be comparatively simple. If we could distinguish tubal from abdominal pregnancy in the early stages, the former could be relieved and the latter allowed to progress until viable.

Many forms of treatment have been devised and practiced at different times. Among these may be mentioned hypodermic injections of various narcotics and poisons into the foetal sac, and even into the foetus itself; syphilization of the mother with the hope of destroying the child; puncturing the sac through the vaginal or abdominal walls and drawing off the liquor amnii; the passage of an electric current through the foetus with the hope of killing it. It is needless to say that these and many other devices, too numerous to mention, are hazardous to the mother, and in many instances ineffectual in the destruction of the child.

In my opinion, the only sensible and rational treatment in extra-uterine pregnancy is laparotomy. The proper plan of treatment to be pursued in all cases of extra-uterine pregnancy, except those in which the foetus is contained within the folds of the broad ligament, no matter at what period of gestation, is to open the abdomen and remove the tube that contains the foetal sac. I will go still further, and say that in a case in which a tumor has been discovered in the tube, and we are led to suspect the existence of extra-uterine pregnancy, an exploratory laparotomy should be performed, and if it is then found that the tube does not contain a foetus, the tumor, whatever it may be, can be removed. Too much emphasis cannot be laid upon the propriety of early operation, for we all know that the tube is sure to rupture, sooner or later, and, in most cases, cause the death of the woman, if an immediate operation is not performed.

When the foetus is contained within the broad ligament, it should be allowed to remain there until it becomes viable, unless secondary rupture occurs, or it should die in the meanwhile. When rupture has taken place, the abdomen should be

immediately opened, all foreign substances removed, and the bleeding vessels ligated. The peritoneal cavity should be thoroughly irrigated with warm water that has been boiled, and a glass drainage tube placed in the lower angle of the wound. When pregnancy is far advanced, and the child is either viable or dead, its removal becomes necessary. This is best accomplished by abdominal section. The incision should be made directly over the foetal sac, if possible, as by so doing the foetus, in many instances, can be removed without opening the peritoneal cavity. The child should be removed from the sac, and the cord cut as close as possible to the placenta. If the placenta be not firmly adherent, it should be removed. If the hæmorrhage from the surface of the sac which contained the placenta cannot be controlled with warm water, a sponge wet with Monsell's solution should be applied to the bleeding surface. This failing, the sac should be packed with a strip of iodoform gauze, the end of which should be brought out at the lower angle of the wound, by the side of a glass drainage tube. In from twenty-four to thirty-six hours the gauze should be removed, and the drainage tube allowed to remain until all discharges have ceased. If the placenta is firmly adherent, it should not be removed.

After thoroughly cleansing the interior of the sac and removing all loose membranes, the stitches should be so arranged that when they are tightly drawn the sac will be air-tight. If at any future time the placenta should show evidences of suppuration, the wound must be reopened, the placenta removed, and the interior of the sac thoroughly irrigated and drained.

It is needless to say that in all these operations the strictest antiseptic precautions should be observed in their minutest details.

ELECTRICITY AS A THERAPEUTICAL AGENT IN THE TREATMENT OF DYSMENORRHOEA AND PELVIC INFLAMMATIONS.

Read at the Annual Meeting of the Illinois State Medical Society, at Springfield, Ill., May 20, 1911.

BY F. J. PARKHURST, M.D.,
OF DANVERS, ILL.

EX-PRESIDENT McLEAN COUNTY MEDICAL SOCIETY.

As a therapeutical agent, electricity has a wider range of usefulness than any other one agent known to the medical profession to-day. A great deal of good can be done with it when properly and carefully used. The ancients had a limited knowledge of its power to cure disease. Their batteries were furnished them in the form of an electrical fish, the *raja torpedo*, found in the Mediterranean Sea. Shocks from these torpedoes were often used in the treatment of dis-

ease. Since Galvani discovered galvanism in the year 1786, advancement has been made in the study and use of it. The past sixty years and more, especially the past twenty years, it has received much attention at the hands of the medical profession. The past seven years it has especially been used in the treatment of diseases of women. At the present time it is being landed to the skies as a panacea by members of the profession, and equally denounced as worthless by others.

One reason for the latter opinion may be found in my own experience with the agent. A short time after commencing the practice of medicine, ten years ago, I purchased a 24-cell combined battery. Used it for two years or more as I know some physicians are using it. In time denounced it as worthless, as any physician will who uses it in a similar way. Was careless about keeping my battery in good condition, did not study the subject thoroughly, was ignorant of its methods of influencing living tissues, of the selective points for applying the electrodes, paid little attention to the strength and duration of the currents employed. Did poor work and received poor results. My battery in time got out of running order for want of proper attention, and was placed at one side in my office, where it was soon covered with dust. For two years or more made no use of it. During this time remarked that I had no use for electricity, and had but little confidence in it as a therapeutical agent, that it did not come up to the claims made for it, and have heard more than one physician make similar remarks during the past year.

In May, 1886, attended the meeting of the American Medical Association, held in St. Louis, and heard a paper read by Dr. F. H. Martin, of Chicago, on Galvanism in Gynecology. It was an excellent paper, and was well and ably discussed. After hearing this paper, came to the conclusion that I knew but very little or nothing at all about electricity, and went home resolved to become better informed on the subject. And I am pleased to-day that I can contribute something, in a practical way, of the benefits to be gained by the proper use and administration of this wonderful agent. To use it successfully, a physician must have one or more of the standard text books on electricity in his library, and study them. He should have a good battery, and keep it in good condition. He should select suitable cases for treatment, and be careful about the strength and duration of the current employed.

I have brought with me the battery and instruments used in the treatment of the cases I am about to report.

A good 24 cell battery will furnish a current of sufficient strength for all purposes, even to breaking down large uterine fibroid tumors. I have here a 50 cell Barrett chloride of silver battery.

This battery will run two hours a day for two years, equal to about two cents and a half per day, and furnish a strong current. Next, a milliampèremeter, used to accurately measure the strength of the current. The custom with some physicians, of estimating the strength of the current by the number of cells employed, should never be resorted to, as it is unreliable, and may bring about dangerous results. To produce certain results an accurate strength of current is required, and can only be measured accurately by the milliampèremeter. Next, the abdominal electrodes, which should be large enough to cover the whole abdominal surface from the umbilicus to the pubes. The first abdominal electrode I present is the Apostoli clay electrode, made very easily. Have a tin-smith cut out a piece of zinc 5 or 6 inches long and 3 or 4 wide, and solder on a binding post, get some clay, moisten and mould it to the proper consistence and size, bury the zinc in the clay and cover with thin cotton cloth; it is easily kept moist and warm. The next is the Martin abdominal membrane electrode, a very good substitute for the Apostoli clay electrode. The object in having these electrodes so large is to so diffuse the current that a large dose can be used without pain. The internal or active electrodes are composed of metal, and may be of various shapes and forms to suit the fancy of the operator. There is a difference in the polarity of the internal electrodes that is always well to bear in mind—one coagulating, hardening; the other liquefying, softening. You turn on a very strong current, and apply an electrode to the mucous membrane, which is connected with the positive pole of the battery, and the mucous membrane becomes hardened, as if cauterized with an acid. If a similar current is turned on and the electrode attached to the negative pole of the battery, and applied to the mucous membrane, the effect upon the membrane is that of solution, similar to that produced by caustic alkali. Having a correct understanding of the action of the poles, it is seen that to cure a profuse cervical leucorrhœa, to check and stop profuse uterine hæmorrhage in uterine fibroids and polypoid growths of the uterus, etc., the positive intra-uterine electrode is the one to be used. Where fibroid tumors are to be broken down, a subinvolted uterus reduced in size, hardened exudates, inflammatory deposits, etc., removed, the negative pole should be employed. Before going into details, let me state that antiseptic precautions in the use of instruments and washing out the vaginal and uterine cavities, should be carried out. The first case I report is one of sterility and dysmenorrhœa.

Mrs. C., married, age 23, consulted me August, 1890, and gave the following history: She had been married four years without becoming pregnant, and was anxious to have children. Menstruation commenced at the age of 15, and was

normal, lasting about four days. About eleven months before marriage, one day while out riding and returning home, on getting out of the buggy, she stepped on the top of the wheel of the buggy and jumped to the ground. She immediately felt as if something had given way in the lower part of her bowels, was taken with a severe pain in the lower part of her back and in her limbs; was unable to walk and had to be helped into the house and to bed, where she remained for three weeks. After this accident, when menstruation came on, it was painful; that she had been slowly getting worse, and at the present time was a great sufferer at her menstrual periods. Her suffering was so great she was compelled to go to bed and take opium to relieve pain. Since marriage, in some ways she had grown worse—she had a bad leucorrhœa, menstruation now lasted seven or eight days, was profuse, leaving her weak and exhausted; almost constant backache, dragging sensations in the pelvis. Life seemed a burden, and at times was gloomy and despondent. She stated that she had consulted several different physicians, had received constitutional and local treatment with only temporary relief. An examination revealed an enlarged and engorged cervix pressing against the bladder, a profuse leucorrhœa, a retroverted uterus bordering on second degree of displacement, bound down by adhesions and immovable. My diagnosis was displacement with inflammation, plastic exudation, resulting in adhesions, brought on by the injury done when jumping from the buggy. The repeated congestions incident to married life, and also from menstruation, constantly aggravated the trouble and made it worse. Galvanism was the remedy prescribed to relieve pain, and break up the adhesions binding down the displaced uterus. The large abdominal electrode was selected for the external or positive electrode. The negative vaginal electrode, covered with wet absorbent cotton, was crowded well up into Douglas' cul-de-sac, in close proximity to the displaced portion of the uterus. These electrodes being held firmly in their places, the current was gradually turned on until it reached a strength of 100 milliamperes. This treatment lasted five minutes, and the current turned off. These applications were continued every other day for the first three weeks, and three times a week the remaining six weeks of the treatment, in all twenty-nine treatments. At the end of the second week menstruation came on, with decided relief in all the symptoms. The relief from pain was such that no opium was required. Menstruation hardly lasted six days, and the amount of the flow greatly checked. The second menstruation was free from pain, and the flow stopped the fifth day. An examination revealed the uterus to be movable, so much so it could nearly be replaced to its normal position. The third menstruation was normal in every re-

spect. One month later, she became pregnant.

Case 2.—Miss N., age 21, came under my care March, 1889, and gave the following history. She began menstruating at 14 years, and has never missed a menstruation since. Her menstruations were always accompanied with pain, and for the past three years the pain had been getting worse, and "that she lived in terror of each menstruation." Her suffering was so great she had used anodyne rectal suppositories, and later morphine and chloroform. During the inter-menstrual period she had bearing-down pains over lower part of abdomen. Her appetite was poor, bowels constipated, and over-exertion was sure to bring on a severe nervous headache. She had been treated by several physicians. An examination was consented to, which revealed a retroflexed uterus; the ovaries were low, enlarged, tender and movable. The treatment used was the galvanic current. The abdominal clay electrode was attached to the positive pole, the vaginal electrode to the negative. The current employed was mild, and of longer duration from thirty M.A., and used twenty minutes every day. After each application of electricity, a small roll of iodoform gauze was crowded up against the fundus uteri, the patient directed to remove it the next day, and use a carbolyzed warm water vaginal injection every second day before coming for treatment. This treatment was continued every day, with the exception of three days, until April 12, when menstruation came on with but very little pain, the patient remaining quiet in bed. April 19 the patient returned, and the same treatment carried out. The ovaries were not so tender and higher up, nearer their normal position. The next menstrual period was free from pain, she not being obliged to remain in bed. The treatment was continued two weeks longer after this menstrual period. On examination the ovaries had regained their normal position, and the uterus found in a better position than at first. The patient had gained in flesh, had a good appetite, and could stand fatigue without bringing on the nervous headaches. Two years have passed since this patient received her last treatment, and she tells me that "her menstrual periods have been free from pain, that life seems a paradise to what it used to be, and that she is stronger and healthier than at any time since menstruating."

Case 3.—Mrs. M., married, consulted me June, 1890; has had four children; date of last confinement four years ago. Never had a tedious labor. Three years ago had typhoid fever, complicated with cellulitis confined to right side. Convalescence very slow. Menstruation did not come on for six months after getting up from the fever, and was very painful. The pain being principally in the ovarian region on the right side. She stated that for two and three days preceding menstruation, and during the first day of the flow

the pain was intense, and sometimes when the flow checked the pain would come back as bad as ever, and remain so until she flowed again. Morphine in large doses only gave relief. She took her bed sometimes a day or two preceding menstruation and remained during the entire time. Every menstrual period left her exhausted and very nervous. She also complained of frequent painful micturition and severe and annoying pruritus vulvæ often preceding and lasting a week or more after menstruation. She had received constitutional and local treatment from different physicians; said she believed there was no help for her and that she was tired of doctoring. An examination revealed the uterus symmetrically enlarged nearly twice the normal size. The uterine sound passed to the depth of three and three-quarters inches; the cervix lacerated to the left almost to cervico vaginal junction, and the mucous membrane of the vagina was somewhat thickened and pale in color. There was considerable tenderness over the right ovary and there was thickening of the broad ligament. Considering the case carefully, the character of the pain as connected with the flow, I concluded that the right ovary must be surrounded by non-elastic layers of an exudate thrown out at the time of the cellulitis. Treatment was commenced by using galvanism in strong doses. The large abdominal membrane electrode attached to the positive pole, and the vaginal electrode applied to the right of cervix uteri, and crowded well up in close proximity to the right ovary as possible. The object being to produce absorption of the exudate enveloping the ovary. Treatment was given four times a week the first three weeks, and three times a week for the last five weeks. At the end of the third week menstruation came on with decided relief in all the symptoms. There was but little pain, no trouble about the bladder and slight pruritus vulvæ. The second menstruation was normal. The fourth menstruation passed with no abnormal symptoms, and two months ago she informed me that there had been no return of pain at her menstrual periods, and I have every reason to believe the patient permanently cured.

Case 4.—Was called to see Mrs. N. November last, 1890. She had been married eleven years, had three children, one miscarriage, and one premature birth. The premature birth had occurred nine weeks previous to my seeing her, and during all this time she had been confined to the bed. I found her pale, anæmic, nervous, no appetite, very restless at night, suffering with cystitis, which was mechanical; two or three times a week she was obliged to take morphine to obtain relief from pain which was confined to lower part of abdomen. An examination revealed a large flabby subinvolted uterus crowding against the bladder, causing the cystitis. There was a great

amount of soreness over the lower part of the abdomen, but very little pressure causing pain. The patient had been unable to lie on either side. The os was large, patulous, and the sound readily passed to the depth of four and a quarter inches. She had received good nursing and been on good tonic treatment, and also received ergot and vib. three times a day. I stopped giving all medicines of any kind, and directed that the bladder be washed out once a day with one quart of warm water in which 2 grs. borac acid had been previously dissolved. Galvanism was the treatment advised and carried out. The large abdominal clay electrode was attached to the positive pole and the uterine cup electrode to the negative pole. This electrode was firmly applied to the cervix uteri. The current used was mild, 30 M. A., and used twenty minutes every day. After the first treatment the patient remarked: "I feel as if I could go off to sleep. I have faith this is going to help me." The improvement was rapid and very gratifying. After the third treatment the patient could lie on either side and the pain and soreness rapidly disappeared. In seven days the patient had a good appetite, slept well at night, became cheerful, and by the tenth day was able to sit up in a chair for the first time since becoming sick. The treatments were continued every day for four weeks, and three times a week for four weeks. Forty treatments in all. At the time of the last treatment the womb had returned to nearly its natural size. I saw the patient last week, she was looking well, had increased in weight, was able to walk and ride out.

I have selected and reported these four cases because they were cured by galvanism. No other remedy being employed in their treatment and cure by me. My list contains others permanently cured, some greatly benefited, and some not helped at all. The fact is mentioned in connection with each case that they had all received at different times first-class treatment, constitutional and local, with no relief. In the first case there was a displaced uterus bound down by inflammatory exudates, interfering with the function of the organ. In the second case repeated congestions had resulted in hypertrophy and displacement of the ovary. In the third case an unyielding exudate interfered with the function of the right ovary, and severe pain the result until the congestion was relieved by a flow of blood from the uterus. In the fourth case the uterus from some predisposing or exciting cause, or both, had failed to contract to normal size, and remained a large, soft, flabby mass, filling the pelvic cavity. The indication in each case was the removal of the products of congestion and inflammation, and the cure of pain the result. This was accomplished by the passage of electricity through the diseased tissues. I wish to state in closing, that I am not in favor of

using strong currents as I used to be. My experience and observation have led me to believe that the same electrolytic action can be obtained from a mild current for a longer time than a strong current for a short time, and with less dangerous and more pleasant effect upon the patient. There is an interesting field of observation here, and with the means we have at hand for actual measurement of the currents by the M.A., we can, before many months, arrive at definite conclusions as to the effect of the strong and mild currents in the treatment of our cases.

I am no specialist, but a general practitioner in a small town, in McLean County, and only use electricity as it is indicated in general practice. Some of the most gratifying results in my experience as a practitioner have come from an intelligent and proper use of this agent.

REPORT OF A CASE OF ABDOMINAL UTERINE TUMOR.

BY EDWARD BORCK, A.M., M.D.,

OF N. ST. LOUIS, MO.

History.—Mrs. C. N., a farmer's wife from Kansas, was sent to me by her family physician in May, 1885; she was 41 years of age, five feet 6 inches high, natural weight 96 lbs., brown hair mixed with gray, blue eyes. Had always been in good health, quiet temperament, menstruation regular, of late years some leucorrhœa. A small tumor in pelvic cavity, of about two years' growth.

Diagnosis.—Fibroid of the uterus. Ovaries not implicated.

Refused to operate, advised the patient to go home and wait until her climacteric period had passed; if by that time the tumor had not increased very much, and she would be well otherwise, then the tumor would very likely cease growing, or even atrophy, after she had passed the critical period, and need no interference. If, however, the tumor should become larger, to return, and we would see what would be best to be done.

May 15, 1891, six years later, Mrs. C. N. arrived again at my Private Surgical Home. She came determined to have the tumor removed and get well; she could not stand it any longer, something must be done for her, as the tumor had increased in size considerably. Menstruation had ceased for some time.

Examination.—Patient's weight 121 lbs., circumference over umbilicus 48 inches. Otherwise the patient was in very good condition, excellent spirits, tranquil, and not the least afraid.

Diagnosis before Operation.—Fibro-cystic tumor of the uterus, left ovary not involved, right ovary may be cystic degenerated, no adhesions except to pedicle. Taking all the circumstances into consideration, I advised the operation.

May 17, at bedtime, she took calomel gr. x. followed the next morning with a Seidlitz powder.

May 18, before retiring, a warm bath.

May 19, in the morning, a cup of milk and a slice of bread; a copious enemata of warm soap water, which cleaned the bowels thoroughly. A vaginal douche of warm water was given, and she was put to bed. At 11 o'clock morphine sulph. gr. ss, and warm water bottles to limbs and body to keep her moist, she slept. At 12 o'clock she took the chloroform with ease. Operated in my usual manner. Drs. Wm. W. Graves and Henry Summa assisting; present, Dr. L. W. Gerling, Mr. Heide-man, M.S., and Miss Henrietta A. Stoffregen, the nurse.

After opening the abdomen by an incision extending from the pubis to about 1½ inch beyond the umbilicus, a large round, solid tumor was exposed. No adhesions anywhere, the ovaries not involved, though both degenerated. On the right side of the tumor were several small bunches or protrusions from the tumor, and more soft or cystic-like, and closely surrounding the right ovary. The uterus, elongated, formed the pedicle proper, the fundus involved in the tumor.

I ligated both ovaries with a single silk ligature, separated the peritoneal covering all around, bringing into view the pedicle proper, introduced through the uterine pedicle one of my cyst elevators (double needle), tied a strong silk ligature below the needle and around the pedicle, amputated ovaries and tumor with a pair of serrated scissors, stopped all hæmorrhage thoroughly, which was very little—she lost in all not over one ounce of blood. The abdominal cavity was cleansed and flushed with the artificial serum. I then touched or amalgamated all the blood-vessels with the actual cautery, and stitched the two peritoneal folds together with interrupted fine silk ligatures, covering and inclosing the pedicles, again flushed the cavity with warm artificial serum, and closed the abdominal wound with deep-seated and superficial silk ligatures, thus obtaining a clean shut peritoneal pack. Dressed abdomen in the usual manner. The patient rallied well.

Progress of the Case.—In the evening after the operation, her temperature was one degree below normal, pulse weak but regular, respiration slow. She had been a little nauseated for a few hours, but had suffered hardly any pain, and slept at intervals.

May 20, morning. Temperature 100.5°, pulse 90, respiration 24. Some accumulation of gas in the intestine. A glycerine rectal suppository relieved her almost immediately.

Evening. Temperature normal, pulse 72, respiration 18. Otherwise in a good condition and spirits. From this time on she kept at this stage and slowly improved. Evacuation of bladder and bowels natural.

On the third day, May 22, I removed every

other deep-seated ligature; the wound was closed and perfectly dry. By the seventh day all the ligatures were out, not a drop or sign of any pus, patient was up. On the fourteenth day the patient walked out to the dining-room and took her meal with the family. For the first two days after the operation she was fed on oatmeal gruel, beef-tea, brandy, ice, according to circumstances. After that milk, meat, eggs, vegetables, etc., in addition.

The tumor weighed 20 lbs. 7 ozs. I presented it to the St. Louis Medical Society, with a short history, on the evening of the 23d of May, and made a section of the tumor in the presence of the members, and would say that to all appearance the mass was colloid, showing beautifully the uterine tissue, that is the upper part of the fundus of the uterus, from where the growth originated, with both degenerated ovaries attached.

General Remarks.—It will be observed that I took all possible aseptic precautions. Nothing but clean distilled warm and cold water was used, and the artificial serum for the abdominal cavity, instruments and ligatures. In my early operations I followed a strict antiseptic plan, carbolic acid spray, etc. In time I have learned better, and instead prefer the aseptic method, cleanliness and discipline. No opium, no medicine of any kind was used, nor was it needed in this case. This patient was an admirable patient—quiet, obedient, good spirits, with faith in her recovery. I am especially pleased that she took my advice in 1885.

This is my sixty-ninth case of ovarian or uterine tumors operated upon, exclusive of all other laparotomies for other causes. Out of my first twenty-five cases I lost four patients; out of the next twenty-five cases I lost but one patient. See report in September, 1885.

Remarks on Abdominal Surgery, with Fifty Cases. Read before the Mississippi Valley Medical Society, Evansville, Ind., September, 1885. In full in the *Medical Record*, September 26, 1885, Vol. xxviii, No. 13, whole No. 777. W. Wood & Co., Publishers, 56 and 58 Lafayette Place, New York City. Abstract from same in *JOURNAL OF THE AMER. MED. ASSOC.*, Vol. v, No. 14, October 3, 1885, 65 Randolph St., Chicago, Ill. *Med. and Surg. Reporter*, November 28, 1885, Vol. liii, No. 22, Philadelphia, Pa.

Out of last nineteen cases up to date I lost two patients; these two were operated upon at their houses. The other seventeen cases were operated upon and kept under my own immediate and constant observation at my Private Surgical Home, no death.

I would also refer the interested reader to my papers on:

Ovarian Tumors: At what Stage of the Disease is it the Proper Time to Operate? *Cincinnati Obstetric Gazette*, March, 1880. 101 Inquiries.

Ovarian Tumors (Two Lectures): Diagnosis of, and

Operation. Part I. *Cincinnati Obst. Gaz.*, September, 1883.

Ovarian Tumors. Diagnosis and Operation. Second and Revised Edition, with Six Woodcuts. Pamphlet.

Cyst Elevator: Description of, and Method of Operating. Three Illustrations. *Cincinnati Obst. Gazette*, February, 1879; also *Illust. Vierteljahrsschrift der ärztlichen Polytechnick*. Bern u. Leipzig.

I cheerfully admit that I carefully select my cases I operate upon.

ON THE TREATMENT OF FIBROID TUMORS IN THE WOMB BY THE INJECTION OF ERGOT INTO THEIR SUBSTANCE.

Read before the Illinois State Medical Society, May 21, 1891.

BY J. SCIENCK, M.D.,
OF MT. CARMEL, ILL.

Fibroid growths in the walls of the womb produce such serious symptoms and cause so great an amount of suffering that I believe that any method of treatment which has afforded relief or produced a cure should be placed before the profession.

It has been repeatedly demonstrated that fibroid tumors in the walls of the womb may be either checked in their growth, strangled until local necrosis is produced, or forced out of the uterine walls by contractions produced by the free and long continued use of ergot. The methods by which the remedies have been administered are, by hypodermatic injections; by the mouth; or by suppositories per rectum or vaginam.

The inoculation of a virus to prevent or modify threatened diseases, has been practiced for about two hundred years. The most familiar examples are those against small-pox, anthrax, hydrophobia, cholera, scarlet fever, and finally, tuberculosis. Hypodermatic medication has been on trial for forty-eight years, and is to-day recognized as one of the speediest methods of carrying medicines into the system.

The profession has also had extensive experience with injections of various substances into diseased tissues and abnormal growths, as in the treatment of carbuncle, hæmorrhoids, hernia, hydrocele, goiter, nævus and vascular tumors. But I have been unable to find record of a remedy having been injected directly into the morbid growth itself in the treatment of fibroid tumors of the womb. I have administered it in this manner in several cases with satisfactory effects, and in this communication propose to present a summary of the results:

Case 1.—The first case occurred in 1880, in the person of a German woman. She was about 52 years old; otherwise in good health, had borne five children; the last, twenty years previous. On examination I found a tumor in the posterior wall of the womb, of about the size of a goose-

egg. It had tilted the womb backwards until that organ was entirely inverted; the os being high up under the pubes, while the fundus and tumor had fallen backwards and downwards, and were dangling between the thighs, a constant source of pain and annoyance. I injected one-half drachm doses of fluid extract of ergot into the substance of the tumor, once a week, for two months; at the end of this time the tumor began to suppurate and in a short time had entirely discharged. After the suppuration ceased, I replaced the womb, and retained it in position with a large sized Hodge's pessary; which the patient wore for several months, when it was removed. She is to-day a healthy old lady and suffers no inconvenience from her former trouble.

Case 2.—I was called, in December, 1886, in consultation, to visit Mrs. C. She was then 42 years old, had always lived a quiet, industrious life on a farm. Menstruation commenced at 14 years. She was married at 36; bore her first and only child in her 40th year. Menstruation had always been normal up to the pregnancy; but five months afterward metrorrhagia began, which gradually grew more profuse, although ergot was given freely by the mouth. An examination revealed a well defined intra-mural tumor in the anterior wall of the womb, encroaching on the cervix, and about the size of an ordinary orange. I advised injections of ergot into the tumor. Mr. J. D. Kingsbury, the attending physician, substantially said me the following report:

"I injected half-drachm doses of Squib's fluid extract of ergot each day for eighteen days, then every second or third day for ten times more, at the end of which time the metrorrhagia had ceased. She has taken ergot irregularly, by the mouth, ever since, although there have been no indications of hæmorrhage. Menstruation is regular and free but not abnormal; general health excellent.

Case 3.—In May 1888, I was called to see Mrs. T. She was then in her 42nd year; had always lived on a farm; had borne nine children; the last two years previous. Menstruation had been unusually profuse since that confinement, except during the last three months, when it had been suppressed.

On the day I was called, profuse hæmorrhage had begun, and in a short time after my arrival she had a miscarriage, of twins, at about the third month. Hæmorrhage was very free but was controlled after the womb was emptied. Shortly after her recovery from the miscarriage metrorrhagia set in, which was not controlled by the free use of ergot, by the mouth. About three months after the miscarriage, I made an examination and found a hard tumor about the size of a child's head, in the right lateral wall of the womb. By using an aspirator needle I was enabled to inject into its substance one-half

drachm doses of fluid extract of ergot, which I did once a week for nearly five months; this kept the hæmorrhage under control during this period. At the end of this time the tumor was found to be submucous, lifted up on a thick peduncle and protruding itself through the mouth of the womb. In January, 1889, five months from the time the injections were begun, I removed the tumor with an écraseur. It was so large that the wire would not reach over it, so I was compelled to take it away in three portions; hæmorrhage was not serious. The vascularity of the tumor had evidently been greatly lessened by the injections of ergot. The substance of the tumor was soft and friable and would probably soon have broken down in suppuration in a short time.

I have not observed any serious effects resulting from these injections; in a few instances a slight chill accompanied by moderate fever followed the use of the syringe; but these symptoms subsided in the course of a few hours. I have employed this method of treatment in several other cases with similar results, so far, but they are still in hand.

The most convenient instrument with which to administer the injections is the ordinary hypodermatic syringe with a long needle.

In a few instances I have used a small aspirator as a syringe. The injections are always given through the vagina. I attempt to place the ergot as near the center of the tumor as possible.

THE STRUGGLE FOR LIFE AT THE WRECK OF THE "UTOPIA."

In *The Times* of March 25, there appears from an officer on board the *Anson* a most graphic account of the *Utopia* disaster, evidently written while the terrible scene was fresh in his memory and its horror still vivid before him. While the officers of H.M.S. *Anson* were dressing for dinner the "officers' call" sounded, and all were speedily at their posts. The *Utopia* was sinking fast, and the waves washing over her were sweeping away people by dozens into the sea around. Every wave that passed over the ship lessened the numbers struggling for life. There was one man hanging by one leg to some rope aloft quite dead and nearly naked, and around were others clinging and shrieking for help. Another man had lashed himself to the sails for security, and was drowned standing up, while some of those free, and apparently in greater danger, were saved. One poor fellow, when the *Utopia* first sank, got so excited that, crying out "Oh! I can't stand this," he jumped overboard. The cold water brought him to his senses, and he was picked up and saved, but he had no recollection of what he did. Here is an instance of the effect of shock on the senses suddenly depriving the individual of the power of using them even to save his own life. We are apt sometimes to under-estimate the effect of shock in accidents less appalling, and it is only by such a circumstance as is here described that we can judge by comparison of those lesser instances of shock to the nervous system, which we are so often called on to relieve or to estimate the bearing of with regard to the future life of an individual; especially is this so in railway accidents, in which shock to the nervous system often forms the most serious part of the injury.—*The Lancet*.

THE

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, JUNE 27, 1891.

PRESENT ASPECTS OF DISINFECTION.

MR. WYNTER BLYTH has lately addressed the Society of Medical officers of Health of England, regarding the latest improvements in disinfection. He finds that the basis of the scientific use of disinfectants is changing year by year as our knowledge of disease causation advances. At the beginning of the last decade, when the first results began to be revealed as to the relation of microorganisms to disease, it was the general inference that pathogenic microbes, or those concerned in the propagation of diseases of an infectious character, were almost wholly those of the sporogenic type, and that since the spores of all such organisms are possessed of a high degree of inherent vitality, no so called process of disinfection could be considered adequate and thoroughly efficient which did not have the power of destroying the vitality of the spores of the bacillus anthracis, the most resistant of them all. More recently, however, the field of vision has been clarified and it is no longer necessary to assume that there is the same degree of vitality in all specific disease-germs as exists in that of anthrax. By degrees the pathogenic microbes of very many of the specific infectious diseases have been identified and shown to be non-sporiferous, as in the case of the well-known forms of cholera, uterine fever, erysipelas, septicæmia and epidemic diarrhoea; have been shown to occur as bacilli, streptococci or micrococci and to be very feebly resistant to heat and chemical agents. In this new view, therefore, it has become unnecessary to

have recourse to those powerful chemical substances, the use of which was attended by obvious practical difficulties. In a paper before the Royal Society, MR. BLYTH has already pointed out the important relations of temperature, space and time as factors in the contest with the germs of disease, showing that under appropriate conditions, even such simple means as lime-washing and aeration were competent to remove infection. BEHRING and PRUHL have recently published an account of their experiments with lime, showing its efficacy. BOER has observed that while the addition of very small quantities of lime to culture fluids favored the development of bacteria, larger quantities—as well as equivalents of potash or soda, producing an alkaline reaction, equal to what is known as 50° of normal acidity—were speedily destructive to all pathogenic microbes, in any other form than that of the spore. Hence we learn that the old-fashioned soft soaps, strongly charged with alkali, are in many cases far better germicides than the much-vaunted soaps of carbolic acid, thymol, and terebene; and that the stripping of the wall-paper, lime-washing the walls and ceiling, and the scrubbing of the wood-work with soft soap may be relied upon as generally sufficient for the disinfection of rooms or wards that require cleansing. Lime also becomes useful from its absorbent property, taking up, as it does, the sulphur compounds and other offensive gases, without itself becoming offensive; it is especially suitable in regard to the handling of disinterred bodies and for the purification of the contents of street gutters, and in nearly all cases where it will not cause the evolution of ammonia. Dr. TYKES, of London, has reported his experience of the immense value of quicklime in the removal of over two thousand bodies, and many thousand tons of very offensive soil, from a cemetery in the parish of St. Pancras to an extramural burial-place; as fast as the ground was opened, quicklime was thrown in and the stench at once ceased; the coffins were placed in larger wooden cases with a plenty of lime and, at first, lime was spread over the surface of the loads of offensive earth, after the carts were loaded, but some complaints having been made by citizens along the line of streets through which the carts were driven, he substituted a top-layer of clean earth, when no more complaints were sent in; this cemetery had

been closed for twenty years and the condition of putrefaction in the bodies were so variously and markedly offensive that without the lime the removal would have been well nigh impracticable. For the disinfection of mortuaries lime may be used, but some health officers give a preference to a fifty per cent. dilution of the Burnett fluid, which is a solution of zinc chloride, containing four per cent. of the chemical. In the disinfection of sick-rooms, sulphur fumigations have had a variable reputation, and while they should not be allowed to supersede lime washing and the alkaline scrubbing, they should still be regarded as a serviceable addition to those measures. For the deodorization of excreta and stable refuse, the acid sulphates, which would fix the ammonia and at the same time not detract from the value of the fertilizer, have the preference over carbolic powders, but there are many sanitary officers who adhere to the use of solutions of corrosive sublimate, especially for the disinfecting of enteric excreta. Touching the disinfection of fomites by heat, DR. BLYTH insisted that all recent researches tended to show that time was a most important factor. Given an indefinite period of time, comparatively low temperatures have been found effective, and intermittent heatings below 212° F. may very well be employed in the purification of those articles, such as kid gloves, which are damaged by higher temperatures. In the refuges established last winter in Berlin, the use of a steam-chamber was relied upon for the disinfection of the clothing of the lodgers, while the persons of the latter were being treated to a bath; and recent German researches appear to establish the superiority of current steam over pressure steam, the steam being admitted at the upper part of the chamber and its temperature observed at its point of exit below. In regard to the carriage of infection by persons who are convalescent from infectious diseases, the discovery of Oertel must not be forgotten. He reports that he has found the bacillus of diphtheria in the throats of patients even as late as three weeks after recovery and discharge from attendance. It is possible that a like condition may obtain after scarlet fever and may explain the propagation of the disease by discharged patients notwithstanding the careful exercise of every ordinary precaution of disinfection, clothing and persons at the time of their discharge.

A NEW THEORY OF "URÆMIA."

There is no more obscure subject in pathology, than the various clinical phenomena grouped under the general head of uræmia. Of all the theories that have been advanced, it must be confessed that none of them offer a complete explanation of its varying conditions.

For years the most generally accepted doctrine, and one that contributed the name to this symptom complex, regarded it as simply due to an excess of urea in the blood; this view was then followed by that of FRERICH'S, who taught that carbonate of ammonium was the toxic substance. Further observations gave the *coup de grace* to these earlier views, and apparently demonstrated that various excrementitious substances such as xanthine, creatin, etc., were the morbid agents. Perhaps the most generally accepted view now (JACCOUD), is that any or all of these substances may be present, and in part responsible. The most striking fact against the acceptance of the view that uræmia is dependent upon the retention of normal excrementitious substances in the blood, is that animals or man suffering from fatal obstructive suppression of urine present a very different clinical picture from those affected with uræmia, the result of Bright's disease. This has given rise to the theory of REESE, which has been accepted in part by MAHOMED, that the phenomena of uræmia were dependent upon capillary hæmorrhages or serous effusion, due to changes in the blood and altered vascular pressure. It is obvious, however, that these same changes, may be, and often are, present in other diseases, that are never attended by coma and convulsions.

Perhaps the majority of clinicians incline to the view that this condition is essentially a toxæmia, though the exact nature of the offending substance has not been determined. Heretofore all researches have been conducted upon the theory that it was some substance, either changed or unchanged, that is under normal circumstances excreted by the kidneys.

Recently Dr. C. J. RADEMAKER (*Amer. Prac. and News*), May 9, 1891, has announced the discovery of a crystalline organic compound, differing from all constituents of normal urine, that he has uniformly found in albuminous urine. This substance upon ultimate organic analysis was found to have the same formula as urethane,

and to present the same general chemical reactions. As the writer points out, urethane belongs to the class of narcotic poisons, and he suggests that uræmic symptoms may be due to the presence and retention of this toxine.

Whether in this discovery we have at least cleared up the doubtful pathology of uræmic coma, remains for further observation and study. Certain it is that it suggests a new line of inquiry that *a priori* is full of promise, and one which, apparently, is capable of reconciling the wide variation in the observed symptoms in acute urinary suppression and Bright's disease.

FOURTH OF JULY SURGERY.

The usual number of Fourth of July accidents may be expected this year, especially in the large cities and among our patriotic boys from ten to sixteen years of age. In former times, the toy cannon used to figure very largely in the etiology of the injuries liable to keep the practitioners busy on the great holiday, but during recent years the giant cracker has forced its way to the front as the champion among dangerous playthings. The injuries inflicted by these crackers very commonly have their situation in the right hand, splitting open the thumb, at or near its base, and causing a compound dislocation of the proximal joint of the first metacarpal bone, tearing the latter away from the trapezium, so that the thumb and its metacarpal are connected with the hand only by the soft parts. Sometimes the explosion affects the ungual phalanx, severing it from the hand. In the report of the surgical work performed at the Boston City Hospital on the Fourth of July, of last year, there were twenty-one cases brought to the hospital as the result of explosions, the majority of which were due to the giant fire-cracker.

PURE CULTURES OF THE GONOCOCCUS.

VON SCHROTTER and WINKLER report that they have recently employed plover's egg albumen in the cultivation of the gonococcus of NEISSER. The coccus is obtained from the urethra with all possible precautions. The gleans is first washed with alcohol and corrosive sublimate, then some of the infected pus is conveyed by a sterile needle to the coagulated albumen. The culture is placed in a brood oven at a tempera-

ture of 38° C. At the end of six hours a thin, whitish, transparent layer appears, that extends itself rapidly over the albumen. There is some growth at ordinary temperatures, but it is much less. Experiments with egg albumen of the common fowl were negative. *Centralblatt für Bakteriologie und Parasitenkunde*, May 23, 1891.

(It is to be regretted that some more readily obtainable culture medium was not found than plover's egg. Still, even with this disadvantage, it is to be hoped that pure cultures of the gonococcus may materially advance our knowledge of this important inficiens.—Ref.)

MEDICAL EDUCATIONAL INTERESTS.

The following circular has a melodious ring that clearly says: Attention, right dress, forward march. Straggling and getting out of line are strictly forbidden:

STATE BOARD OF HEALTH, KENTUCKY,

June 19, 1891.

To the Editor:—I am instructed by this Board to transmit to you for publication the following self-explanatory resolution, which was adopted at its recent meeting held in Louisville:

Resolved, That the Secretary be instructed to place upon the list of medical colleges whose diplomas are to be certified and endorsed for registration under the laws of this State only such colleges as shall, after the session of 1891-2, exact of matriculates and candidates for graduation a minim of requirements not less than those required by the American Medical College Association.

Very respectfully,

J. N. McCORMACK, Sec'y.

ACKNOWLEDGMENT.

For the many generous expressions of goodwill on the part of the editors of almost the entire medical press of this country, as well as from an army of friends of THE JOURNAL, we express our most hearty appreciation, and very warmest thanks.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is neither the rival nor antagonist of any part of the medical press, but in all good work for the elevation and betterment of our profession in every section of our country it may be counted upon as giving a strong support, and in utterances of no uncertain sound. Whether

we are able to realize the exalted hopes which have been so lavishly expressed or not, our friends may rest assured that we are here to do our level best to promote every laudable interest and purpose of the medical profession. In such generous, out-spoken expressions of support and tender of aid as have come to us, we recognize a determination to place this Journal away in advance of its present status, even to the making it the largest and best of its kind.

EDITORIAL NOTES AND ITEMS.

THE FRENCH-CANADIAN INVASION OF NEW ENGLAND.—There has been established a new medical journal in French, edited by E. Sirois, M.D., of Three Rivers, Mass. It is the official organ of the *Société Médico chirurgicale Canadienne-Française de la Nouvelle Angleterre*, that was founded in Worcester, Mass., in 1887. The membership now numbers over thirty, mostly from Massachusetts.

DR. ALT'S CONNECTION WITH THE ST. LOUIS MIRACLE (!):—The so-called "miraculous" case of Sister Mary Philomena at St. Louis not long since, and with which it has been reported that Dr. Adolph Alt, editor of the *Journal of Ophthalmology*, was in some way professionally connected, is disposed of by Dr. Alt in the current issue of the journal over which he presides.

Dr. Alt denies in unequivocal terms having any connection with, or knowledge of, any miracle. Dr. Alt said he was called upon one occasion—previous to the reported miracle—and found a congested upper eyelid in the patient, with a history of bleeding from the part—presumed hæmophila. He then adds: "This is all I know of the miracle case. I saw the Sister only that once. I did not do anything for her. I had nothing to do with the subsequent alleged miracle, and could, therefore, not vouch for it, even if I believed it."

THE BRITISH MEDICAL ASSOCIATION.—The fifty ninth annual meeting will be held at Bournemouth on Tuesday, Wednesday, Thursday and Friday, July 28, 29, 30, and 31, under the presidency of Willoughby Francis Wade, B.A., M.B., F.R.C.P., J.P. The address in Medicine will be delivered by T. Lauder Brunton, M.D., F.R.S.;

the address in Surgery by John Chiene, M.D., F.R.C.S., Ed.; the address in Public Medicine, by Edward Cox Seaton, M.D.

The scientific work is divided into nine sections, viz., Medicine, Surgery, Obstetric Medicine and Gynecology, Public Medicine, Psychology, Pathology, Ophthalmology, Diseases of Children and Therapeutics, and already an average of eight papers in each section has been announced.

A brief description of the place of meeting will be of interest, especially to those who have lately enjoyed the beauties of our National Capitol at the meeting of the American Association.

Bournemouth is a happily situated watering-place on the southern English coast. A valley of about two miles or more in extent, beautifully cultivated, and through which winds a small stream, gives a place for pretty homes, and one of those quiet English towns so famous in the literature of the country—the literature of the English-speaking world.

A broad beach of white sand, wooded hills, the sparkling sea; together with the calm, joyful surroundings made by the hand of man, and the smile of the summer's sun, should all conduce to the success of the occasion, and we doubt not that such will be the case. Various points of interest and pleasure are within easy distance, and excursions have been arranged, giving, therefore, a decidedly sociable trend and interest, other than purely scientific, to the gathering.

MEDICINE VS. SURGERY.—Viewing the height to which the science and art of Medicine and Surgery is advancing, and the struggle of both branches to attain the higher meed of praise; looking over the whole field of progress and possibility through the glasses of "A Quinquennial Retrospect," Dr. Grigg, in an inaugural address before the British Gynecological Society, said: "The greatest operative skill that ever man possessed must pale before the discovery of a drug or of an agent which can arrest or destroy the effects of pathological changes. We are on the threshold of great discoveries. Another century will not pass without increasing our therapeutical resources at the expense of the surgeon's art."

ARTIFICIAL INFANT FOODS.—Dr. C. W. Earle, of Chicago, maintains strongly against the prepared infant foods—the commercial foods so much

advertised and used. Above all else, of course, he contends that the mother's milk is the food *par excellence* for the infant's stomach and bowels. If this is not of sufficient quantity, then a prepared food may be resorted to only to fill out the deficiency in quantity. If it becomes *imperative*, then a prepared food may be wholly used. Condensed milk, properly diluted with rice-water or toast-water, and *sterilized*, has been used under his care with the best results. He strongly advises the sterilization of all infant artificial food, and the use of the improved "feeders." The old-time nursing bottle he denounces as a thing of evil.

A VIABLE CHILD AT SIX AND ONE-HALF MONTHS.—Dr. Herman L. Collyer reports (*Arch. of Gynecology*, June, 1891) a child born before six and one half months of uterine life had been reached. The dates were well distinguished; that is, the time of conception was well ascertained, and the progress of the case from such time was carefully watched. At birth the child weighed two pounds and two ounces. The finger-nails were just beginning to show, while the toe-nails had not yet shown development. The cranial bones were soft, the sutures overlapped, while the frontal suture was open. The child immediately after birth was carefully wrapped and nursed, and continued to live.

Viable children at this age are very uncommon, and even when one is reported, the chances of an error in calculation render it difficult for positive statements.

THE COMPOSITION AND TRUE NATURE OF TUBERCULIN.—It is said that Prof. Koch, having returned to active laboratory work at Berlin, will soon announce full particulars regarding the preparation and essential characters of tuberculin.

THE ST. LOUIS SURGICAL SOCIETY.—This is the title of a new organization of the working members of the profession in St. Louis—those working members to whom surgery has made an especial appeal, and who feel called upon to reply with their choicest gifts and the day and night toil of their minds and hands.

THE AMERICAN SOCIETY OF MICROSCOPISTS.—This Society will meet at Washington, D. C., August 11. In 1878 the first organization was effected, beginning with about seventy-five mem-

bers. Since then it has grown until now its membership list shows upwards of four hundred names. Yet the number is not what it should be, and a plea has been presented by the Secretary for more interest—for a larger list of members, and an increased activity on the part of those already belonging to the body.

The indispensable value of the microscope to medicine, together with the fascination of the study, should invite many physicians to show their zeal along this line by rendering such assistance as is within their power to this National organization.

ADVANCED SURGERY.—M. Figueira, M.D., of New York City, believes an operation for foreign bodies at or below the bifurcation of the trachea can be made from the posterior thoracic region—between the posterior scapular margin and the vertebra. He is convinced that vital structures could here be avoided and the roots of the lungs reached. The sad case of the Rev. Dr. Bothwell, regarding which the country is aware, has prompted him to undertake experiments, the results of which he promises soon to make known.

DOMESTIC CORRESPONDENCE.

Tuberculin.

To the Editor:—I note the report of Dr. Joseph Jones, of New Orleans, La., upon the analysis and examination made by him of Professor Koch's lymph, now called tuberculin, which appeared in your issue of May 30.

Without in the least desiring to appear as the champion for the lymph, the extraordinary statements made by Dr. Jones in this report, led me to reply to his claims of having found living tubercle bacilli, or at least such as resembled and behaved similar to the bacilli of tuberculosis.

Many similar analyses have been made and published before and since Dr. Jones began his investigations, but strange to say in none of the numerous experiments made in the physiological and bacteriological laboratories of Europe and other countries have ever any living germs been found to be present in the fluid.

Dr. Jones says, that upon the dilution of the lymph with boiled distilled water and preserved in chemically clean test tubes, the fluid became turbid, and that microscopic examination showed the turbidity to have been due to the multiplication of organisms presenting the physical and chemical properties similar to those of the bacillus of tuberculosis.

He does not state the degree of dilution and the length of time it required for the turbidity to occur. Boiled distilled water may and may not be sterilized

water, and chemically clean test tubes, may not be sterilized and may not be clean in a bacteriological sense. Neither does he show that the turbidity could not also have been due to the development and growth of the germs.

The care and facilities for correct and unassailable investigations in these matters are such, that a lack or the slightest deficiency in either direction would make any conclusions certainly very doubtful, if not valueless. I have myself kept such a 10 per cent. solution for over five months, and without all the precautions necessary to prevent error, and the fluid has not become turbid, neither can the most careful examination show the presence of bacilli, dead or alive. I have kept half, 1 and 5 per cent. solutions without especial precautions for a number of weeks and they were perfectly clear at the end of such time.

Now as to the results of culture as obtained by Dr. Jones they are certainly remarkable, and it would be of the greatest interest if the report contained exact data of the steps and modes of his procedures, the way in which the culture media were prepared and kept after inoculations, and the time and the precautions under which he made his final examinations.

Dr. Jones being until now a stranger in the field of experimental bacteriology, it would not be unreasonable to ask of him evidence for the remarkable statements which he makes, the more so inasmuch as men who have at their command the perfect equipments of bacteriological laboratories of Europe and other countries, and who have earned a world-wide reputation in this special field of scientific labor, and who have made similar investigations with Koch's lymph, have never found any tubercle bacilli capable of growth and multiplication, in that fluid.

That the lymph contains dead or inert bacilli has been well known since the first introduction, and can be found especially in the sediment of occasional specimens, but heretofore, so far as I know, all culture and inoculation experiments have failed, and from the mode of preparation we must expect them to fail, if no germs are admitted by error or oversight from without. These dead bacilli, are, however, not found so plentifully even in the sediment from a bottle of tuberculin as one might suppose from Dr. Jones' report; only here and there we find a bacillus in the field, and more often none at all. Their presence and inertness were known to Professor Koch and his associates, from the beginning has been referred to in the medical literature again and again, and the mode of preparation with prolonged exposure to intense heat of the fluid, and its preservation in glycerine after filtration through porcelain, is a sufficient guarantee that we have nothing to fear from them. Moreover, every vial before being sent out of the laboratory is especially tested and examined.

Dr. Jones should or could have known of the presence of inert bacilli, and of the negative experiments of other experiments before he undertook the examination of the vial submitted to him, and certainly before he published his report.

This question, which in Europe finds now no further at-

tention, having come up in America, it would certainly be interesting if Dr. Jones would repeat his experiments, and, if from the same sample some well known bacteriologist, as for instance Professor Sternberg, or Ernst, could be induced to make control experiments, for such matters require to be definitely settled in the interest of science as well as that of the profession and patients.

It is certainly not intended that living tubercle bacilli should be contained in the tuberculin, and contrary to Dr. Jones' conclusions its action does not depend upon their presence, and this Dr. Jones must also have known when he made his report. To me his concluding remarks are entirely unnecessary or hardly in good faith when he refers to the remedy as a secret medicine, Dr. Koch having given the temporary secret of its source and composition to the world before Dr. Jones came into possession of his vial. In the meanwhile those who use the remedy, if influenced by Dr. Jones' report, can make assurance doubly sure, by subjecting every solution for clinical use to prolonged boiling, which in no wise interferes with its action, and which I, and as far as I know, others who have applied it, have always done.

The addition of $\frac{1}{2}$ per cent. of carbolic acid can also be increased to any desired strength, as for instance, the 10 per cent. solution of tuberculin which we make from the original vial can contain 5 per cent., or 50 per cent. of carbolic acid may be added to the lymph, and its 1 per cent. solution would then still only contain $\frac{1}{2}$ per cent. of carbolic acid as originally intended.

I here also found that tuberculin solution containing as much as 1 or 2 per cent. of carbolic acid crystals are not specially painful or objectionable for hypodermic use. There can be no doubt, that the preparation of the tuberculin is in reliable hands, and that any findings justifying even the remotest suspicion as to the presence of active tubercle bacilli or other microorganisms would promptly lead to a revision of, and increased precautionary measures in its preparation, for indeed, it cannot be a matter of great difficulty to sterilize the remedy, and control experiments are daily being made in the laboratory of its production.

Respectfully yours,

KARL VON RUCK, M.D.

Winyah Sanitarium, Asheville, N. C., June 3, 1891.

Vote of the Missouri State Medical Association upon the "Three Years Course."

To the Editor:—As a part of the medical history of the West, the attitude of Missouri towards the great question of educational reform now agitated all over the country, must attract general interest. In THE JOURNAL, April 11, 1891, an account was given of the history of the Three Years' obligatory Medical Course Bill in the Missouri Legislature: Indorsed in a memorial by 1,700 doctors from all over the State, and by a large majority of the fourteen medical colleges chartered by the State, the Bill was unanimously recommended for passage by the committees of both House and Senate. The House passed the Bill by a vote of 85 to 22; it came before the

Senate during the last hours of the session, and was defeated by a vote of 5 majority—a number of the Senators had already gone home, including friends of the Bill. A more flagrant violation of the principles of democracy and defiance of the will of the people, can hardly be instanced. At the annual meeting, May 20, of the Missouri State Medical Association, the following resolution was introduced:

That the Association urge upon the State Board of Health that it define the statutory phrase "college in good standing" (as affecting the value of diplomas shown by applicants for license to practice medicine), to apply only to such colleges as require attendance upon three annual courses of lectures and clinics, of six months each, and that a copy of this resolution be sent to the Governor of the State, and to the State Board of Health.

This emphatic resolution was adopted by a vote almost unanimous, after all had time to take part in the discussion. Thus the representatives of the profession in Missouri have placed the State absolutely on record as desirous of the reform, and at the same time, they have put the stamp of their condemnation upon those who, through political juggling, have for the moment defrauded the State of necessary legislation, and betrayed the cause of science and of the people.

As proof of the complete unanimity of opinion in the State upon this subject, the homœopaths, in convention at Kansas City, April 22, passed a resolution identical in spirit with the one above given. The following is taken from the organ of the eclectics, the *American Medical Journal*, St. Louis, April, 1891:

"In the senate it (the Three Years Bill) was defeated. This strange procedure may be understood in this way: If the Bill had passed the Senate, the Governor would have to sign or veto it. To veto would have incurred the displeasure of the great majority of physicians throughout the State, as well as that of the Senate. It would not have been the policy under the existing crisis. To sign the Bill would have offended some *special friends*."

That the influence of politics upon science is notoriously harmful, the events briefly summed up in this communication afford one more glaring illustration. Respectfully,

CHARLES A. TODD, M.D.

Chairman Com. Scientific Communications, Missouri State Medical Association.

St. Louis, June 6, 1891.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

In several instances of late pneumonia has been most successfully treated by large doses of digitalis. By some medical men the expectant method of treating pneumonia is thought to be not only irrational, but even dangerous, and that the assumption that there is a definite cycle of progress in pneumonia is not warranted, and from experience obtained at the leading London hospitals, the disease may be jugulated or cut short by an energetic, rational mode of treatment, especially if the method is inaugurated at the onset of the disease, and

that, finally, the claim is supported that the treatment of pneumonia with large doses of digitalis promises better results than those obtainable by any other mode of procedure.

Dr. Steele has drawn attention to some useful precautions in the extraction of broken needles. He says that it is most unpleasant, after cutting and probing with the fingers and forceps, to be obliged to tell a patient that further attempts are useless, and that the fragment is still there. The plan he adopts is very simple, painless and reliable. In the first example which he gives, the patient, a young lady, had been unable to rest her left foot on the floor in walking for some weeks, as she had broken a needle into her left heel, and the slightest touch gave great pain. The point of entrance was visible in the middle line, over the os calcis. The end of the needle could be recognized through the skin, but the slightest pressure caused it to recede. Dr. Steele applied two thick felt corn plasters, one on the other, with the puncture occupying the central hole, and ordered the patient to walk freely and bear well upon the heel. This she did with perfect ease, and after ten days the needle presented and was easily withdrawn. Dr. Steele points out that the ball of the thumb and the wrist are not unfrequently punctured, and if the fragment enters obliquely, and lies close to arteries or nerves, and cannot be forced into prominence, attempts at extraction are undesirable, whereas by adopting this simple method, and producing pressure with an elastic ligature or light steel spring like a small truss, the fragment will work out, and not give pain from any knocks while under the skin.

Sir Arthur Mitchell and Dr. Buchan have discussed the influenza epidemic of the first three months of last year in a paper on "Influenza and Weather of London," published in the latest issue of the journal of the Scottish Meteorological Society. In the forty-five years from 1845 down to the end of March, 1890, the total number of deaths attributed to influenza registered in London was 4,690, an average of 104.2 per annum. It will surprise many that, strange as the epidemic was thought to be during its advance from the East towards the close of 1889, deaths from this particular malady have been registered in London every year from 1845. There were in all five epidemic outbursts, viz.: December, 1847, to April, 1848, 1,631 deaths; March to May, 1851, 258 deaths; January to March, 1855, 130 deaths; November, 1857, to January, 1858, 123 deaths; and January to March, 1890, 545 deaths. These visitations, therefore, cost 2,687 lives, leaving 2,003 to be distributed over the non-epidemic forty years. Latterly there was a great diminution of the yearly totals, the six years to the close of 1889 having only twenty-five deaths between them. The distribution of the deaths over the fifty-two weeks of the year shows that the numbers registered in the three months, December to February, were enormously in excess of those registered from May to September, so that there was a strongly-marked winter maximum, and a summer minimum. A secondary maximum was also shown towards the end of March and beginning of April. The authors enter into details connected with the five epidemics, and decide that, although the visits occur generally in the

winter months, they are not related to very cold weather, but to periods of high temperature which manifests itself both before and during the visitation. Information has also been collected bearing upon eighteen other influenza epidemics between the years 1510 to 1637, but as to most of them, owing to the imperfect nature of the records, there was little if any real value that could be ascertained. They were made up of winter, spring and summer epidemics, the weather being of a very varied description; the 1762 visitation being accompanied by unseasonable and intolerable warmth, and the summer epidemic of 1767 being preceded by uncommonly cold weather. So far as can be gathered from the records from 1658 to 1890, the complications and sequels which result from winter attacks appear to be chiefly diseases of the respiratory organs and circulatory systems, the nerve centres having a tendency to be more affected by the spring than by the winter epidemics, while summer influenza induces a prevalence of diarrhoea, coincidently and subsequently. The epidemic of 1831 was the only summer one of the present century.

A German medical man has noticed, in a great number of cases, that tuberculous granulations completely disappear if the wounds be thoroughly covered with fat. This has led him to the thought that in many infectious diseases, the mechanism of the taking up of microbes by the white blood corpuscles or leucocytes sufficed to explain the curative influence of various agents. Restoration of cells and avoidance of injury to the tissue is especially to be regarded, he says. If now the leucocytes can be increased in the tissue itself, without the latter being affected, certainly the diseased condition will be altered for the better. The remedy must be taken up by the leucocytes in the same manner as bacteria are taken up. As regards fat, this process is thought to be best obtained by the free use of olive oil.

A special Indian Committee has been formed in connection with the International Congress of Hygiene, to be held in London, under the presidency of the Prince of Wales. Sir Douglas Galtou is chairman of the organizing committee. Dr. Clave Shaw has contributed a highly interesting memoir to the new volume of the St. Bartholomews' Hospital Reports under the title "Fractured Ribs in the Insane." In his endeavor to throw some light on the pathology of broken ribs in the insane, he has made experiments as to the weight required to cause fracture of the rib. He has come to the conclusion that a considerable difference exists not only in the weight of the ribs on the two sides of the body, but also in the average breaking weight. He has frequently found that a tight rib will bear the heavier weight, and also that there is no proportion between the weight of the rib and the number of pounds that it is capable of sustaining, therefore it is probable that physical conditions of structure have more to do with the strain-resisting power than chemical change. Dr. Shaw has also noted that patients suffering from advanced phthisis, frequently have ribs that support a strain much above the average, whilst persons suffering from disease of the heart or blood-vessels invariably bear less strain than others. When a fracture is caused by a blow, it is de-

pendent not so much on the weight of the rib and its power of bearing strain as upon other conditions. Dr. Shaw does not agree with the idea that the ribs of the insane are generally more brittle than those of the sane. Where extreme brittleness does exist it is almost confined to those affected with degeneration of the circulatory system.

Mr. George Holt has sent the council of University College, Liverpool, £10,000 for the endowment of a chair of physiology. It has been decided to request Mr. Holt to permit his name to be permanently attached to the professorship. The present holder of the chair has sent a letter resigning the position in consequence of increasing work of other kinds.

Dr. Alexander Fraser's new "Guide to Operation of the Brain," contains photographs of the human brain which have been made upon the following plan: After suitable hardening and preparation the head was photographed, and then dissected layer by layer, each layer being photographed in its turn. Further, the art of composite photography has been utilized, so that one is enabled to gaze through the shadow of the superficial structures upon those which are deeper. Thus at a glance the clearest notion of the position of the convolution of the island of Reil, of the cornua of the lateral ventricles of the corpus stratum, can be obtained, each in their respective relation to the surface.

G. O. M.

BOOK REVIEWS.

PRACTICAL POINTS IN THE MANAGEMENT OF THE DISEASES OF CHILDREN. By I. N. LOVE, M.D. The Physician's Leisure Hour Series. Detroit: Geo. S. Davis.

The author states the *raison d'être* of this little volume is to group together a number of practical points pertaining to various disturbances of childhood which have come under the direct observation of the writer. It is not advanced with the idea of completeness, nor to take the place of the various larger works; it is rather to supplement them, as it contains many excellent and practical suggestions that will be looked for in vain in more ambitious treatises. The work bears abundant evidence that it was written by one enthusiastic in his subject, and almost wholly from the standpoint of personal observation. Whatever has been gleaned from other writers has been sublimed in the crucible of experience, and received the stamp of the writer's originality and experience.

In a book bristling with good points, it would be perhaps invidious to single out some for special mention, but we cannot let the occasion pass without referring to the close of the chapter on artificial feeding, in which the writer says: "We must always bear in mind that every baby, like

every other individual, is a law unto itself, and there can be no stereotyped rule for the artificial feeding of infants." Again, under the general chapter, we find the following: "We should make it the object of our lives to teach the parents of the children under our care that an indefinite amount of prevention is better than an indefinite amount of cure. Every day's sickness checks the proper development of the child, aiding in the direction of a delicate organization rather than a strong one."

The work is excellently arranged, easy of reference, and has a good index.

DE LA TUBERCULOSE MAMMAIRE. Par le DR. ADRIEN W. ROUX. Genève: Henri Stapel-mohr.

This small monograph on tuberculosis mammae is an example of useful compilation. While it adds nothing especially new, yet it arranges and classifies our knowledge of a particular subject in such manner that it is readily accessible.

The work is divide into two portions. The first deals with the history, etiology, pathological anatomy, symptomatology, diagnosis, prognosis and treatment of the affection. The second part consists of an abstract of thirty-one previously published cases, to which the writer has added three observed by himself. The work is illustrated by three excellent plates, one of which is colored.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONER'S INDEX; A WORK OF REFERENCE FOR MEDICAL PRACTITIONERS. Ninth year. 1891. Forty eminent contributors.

The present volume, from the well known house of E. B. Treat, New York, 5 Cooper Union, and Chicago, 199 Clark street, fully maintains the hitherto well earned reputation of this series of annuals. The present work contains about 600 pages octavo, and is afforded at the remarkably low price of \$2.75.

Part first contains a review of the therapeutic progress for the year 1890, by Percy Wild, M.D. Antipyretics, hypnotics and analgesics are well considered, the first fifty pages of the work being devoted to the discussion of new remedies.

The body of the work is given to the consideration of diseases, the subjects being arranged, alphabetically, and the recent and most accepted methods of treatment are briefly given.

This feature of the work renders it especially valuable to the busy practitioner as a book of ready reference, and at a small cost adding much valuable information on a great variety of subjects for the use of those whose means and libraries are as yet limited.

Among the subjects which are considered as monographs, and which will repay perusal, are "The Motor Centres of the Brain," by W. H.

Elam; "The Diagnosis of Functional and Organic Diseases of the Heart," by Drs. Leaming and Jackson, of New York; "The Sputa as a Means of Diagnosis," by Dr. F. J. Wethered; "The Hand as a Diagnostic Feature in Diseases of the Nervous System," etc.

Chapters upon Sanitary Science, Climatology and Hygiene, Alcoholic Inebriety, Pharmacy and New Inventions conclude the work. As a *résumé* of medical progress for the year it will be found valuable, and will many times repay its cost.

MATERIA MEDICA AND THERAPEUTICS. By JOHN V. SHOEMAKER, A.M., M.D., Professor of Materia Medica, Pharmacology, Therapeutics and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia; etc. Volume II. Phila. and London: F. A. Davis. 1891. Price, \$3.50.

This is the second and final volume of a work which has engaged the attention of the author for some time. We have noted quite every page of the volume, and feel pleased and benefited for so doing. As in the first edition of all other efforts, so here there is a demand for the critic's pen. And yet there is not, we confess, that shortcoming we had rather prepared ourselves for. Rapid authorship does not usually conduce to thoroughness, and that weighing of evidence which a medical text-book should have; and for this reason, if no other, we were inclined to be unsparing in search and statement.

To the writer—who has turned almost daily to Bartholow's *Materia Medica*—the most serious fault in the make-up of Dr. Shoemaker's work, is the absence of an index of diseases.

The amount of space given to prescriptions, and to a description—however brief—of many drugs which were long since obsolete, cannot have our commendation. To the early student, however, we can see where both of these points may be of value.

The alphabetical arrangement of drugs we like. The clear description of the recent remedies makes it at once quite indispensable to the wide-awake and progressive physician.

SEXUAL NEURASTHENIA. By GEORGE M. BEARD, A.M., M.D., formerly Lecturer on Nervous Diseases in the University of the City of New York, etc. Edited by A. D. ROCKWELL, A.M., M.D., Professor of Electro-Therapeutics in the New York Post-Graduate Medical School and Hospital, etc. Third edition. New York: E. B. Treat. 1891. Price, \$2.75.

The third edition of a work which has become standard in its line. The subject is one of much importance, though one of difficulty and delicacy. Notwithstanding this, however—the difficulty and

delicacy—Drs. Beard and Rockwell have given the profession a work to which it may refer with a confidence of the latest and most scientific light upon a topic which quackery has forced into undue public prominence.

MEDICAL SYMBOLISM. By THOMAS S. SOZINSKY, M.D., Ph.D., Author of "The Culture of Beauty," etc. Illustrated. Philadelphia and London. F. A. Davis. 1891. Price, \$1.

For the student in this line—for he who has time for the less practical side of medicine—interest and profit will follow the perusal of the pages of this little volume. Without attempting to advise the hurried man of to-day, yet we may say that to the average mind a healthfulness of thought obtains from comparisons, even remote though they be; and a comparison between the old—the very old—and the new—between mythology and fact—in the realms of medicine, is afforded in the study before us.

MISCELLANY.

THE PHILADELPHIA POLYCLINIC and College for Graduates in Medicine continues to reach out for additional facilities in the way of study and research for its large class of students. It has just elected five new lecturers. Dr. H. R. Wharton, who is Surgeon to the Children's Hospital and to the Presbyterian Hospital, has been elected Lecturer on Surgical Diseases of Children, a part of his course being Tracheotomy and Intubation.

Dr. C. P. Noble, surgeon in charge of the Kensington Hospital for Women, has been elected Lecturer on Gynecology.

Dr. James K. Young, surgeon to the Orthopaedic Department of the University Hospital, has been elected Lecturer on Orthopaedic Surgery.

Dr. G. Betton Massey, one of the physicians to the Howard Hospital, has been elected Lecturer on Gynecological Electro-Therapeutics, and Dr. Lewis H. Adler, Lecturer on Diseases of the Rectum.

Through the recent election of Professor J. M. Baldy, the valuable special field of the Gynecaeon Hospital has been made available to physician pupils who attend "The Polyclinic." The addition of the above lecturers as an auxiliary to the twenty members of the faculty will make the entire course of instruction cover 150 hours every week, from which may be selected the portion desired by each physician pupil.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION will hold its seventeenth annual session at St. Louis, Wednesday, Thursday and Friday, October 13, 15 and 16, 1891. Reduced rates and an excellent programme will bring out a large attendance. The medical profession is respectfully invited. The officers are as follows: C. H. Hughes, M.D., President, 500 N. Jefferson Ave., St. Louis; B. S. McKee, M.D., Secretary, 57 W. Seventh St., Cincinnati, O.; I. N. Love, M.D., Chairman Committee of Arrangements, 501 N. Grand Ave., St. Louis, Mo.

THE ASSOCIATION OF MILITARY SURGEONS, WISCONSIN NATIONAL GUARD.—The regular meeting of the Association of Military Surgeons of the Wisconsin National

Guard will be held in Milwaukee, June 20, 1891. The proposed meeting of the Surgeons of the National Guard of the United States, which was to have been held in Chicago next July, has been postponed until September, 1891. At that time every effort will be made to organize an Association of Military Surgeons of the National Guard.

About four hundred throughout the United States have more than expressed a willingness to attend. Judging from the correspondence so far, the future of the Association will be very bright, and promises to be of much profit and interest to every one.

At its first meeting papers will be read by Surgeon General Bryant, New York National Guard; Surgeon General Yandell, Kentucky National Guard; Surgeon General Senn, Wisconsin National Guard; Surgeon General of Illinois National Guard.

The Association will be entertained in Chicago by the local Guard. (Signed)

SURG. GEN. SENN, W. N. G.,

Pres. Ass'n. Mil. Surg., W. N. G.

ASST. SURG. RUSH CHANDLER, W. N. G.,

Sec'y Ass'n. Mil. Surg., W. N. G.

135 Grand Ave., Milwaukee, Wis.

WHEREAS, Dr. Chas. G. Bacon, of Fulton, N. Y., aged 76 years, and whose connection with the Oswego County Medical Society the records show to have been since the year 1841; and

WHEREAS, the proceedings of this Society show his continued presence and participation each and every year for the past fifty years without a break or excuse;

WHEREAS, He has occupied every office in the gift of this Society, for most of the time being its financial banker and treasurer; therefore, be it

Resolved, That we round out the semi-centennial of Dr. C. G. Bacon, and declare him most cordially and unanimously elected our Presiding officer for the ensuing year; and

Resolved, That the Secretary be authorized to send a copy of the above to the *Medical Record*, and THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION as a direct challenge to any County or State Society to beat this record.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from June 13, 1891, to June 19, 1891.

Capt. Blair D. Taylor, Asst. Surgeon, is granted leave of absence for one month, to take effect on or about the 14th prox. Par. 3, S. O. 65, Dept. of the Missouri, June 13, 1891.

Lieut. Col. Joseph C. Bailey, Asst. Medical Purveyor, is granted leave of absence for two months, on surgeon's certificate of disability, with permission to leave the Dept. of Texas, and authority to enter the Army and Navy General Hospital, Hot Springs, Ark., for treatment therein for a period of one month. By direction of the Acting Secretary of War. Par. 12, S. O. 133, Washington, June 12, 1891.

Lieut. Col. James C. McKee, Surgeon, having been found incapacitated for active service, on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of section 1251, R. S. Par. 4, S. O. 137, A. G. O., June 16, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy, for the Week Ending June 20, 1891.

Surgeon M. L. Renth, detached from U. S. S. "Newark" and granted leave of absence for six months, with permission to leave the United States.

Surgeon George A. Bright, ordered to the U. S. S. "Newark" Asst. Surgeon M. R. Pigott, ordered to the U. S. S. receiving ship "Independence."

Surgeon Howard Wells, detached from Naval Hospital, Chelsea, and wait orders.

P. A. Surgeon J. M. Steele, ordered to Naval Hospital, Chelsea, Mass.

CORRIGENDA.

IN THE JOURNAL OF June 13, page 852, second column, the foot-notes were transposed, 4 should be 3 and 3 should be 4. On page 854, paragraph 7, line 9, the words windward, and lee were transposed.

In same Journal, on page 844, for John Erety Shoemaker, read George Erety Shoemaker.

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